

**The Contribution of University-Industry
Linkages (UILs) to Tourism Clusters:
Multiple-Case Studies in Thailand**

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DECLARATION

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ABSTRACT

This research develops a theoretical framework explaining how University-Industry Linkages (UILs) affect the performance of tourism clusters in Thailand. Significant external and internal factors affecting Thai tourism industry are examined. The research questions are significant given the importance of successful tourism cluster through University-Industry Linkages (UIL). These questions recognized tourism clusters, the role of university, the linkages between university and industry, influential factors are contextual, and as a result, the author explores four tourism clusters in Thailand and using multiple case studies explains the nature and character of tourism cluster and University-Industry Linkages (UILs) between tourism cluster and its universities. The findings demonstrated that UILs, strategic entrepreneurship and leadership play key role to successful tourism cluster in developing countries.

Keywords: University-Industry-Linkages, tourism cluster, Triple Helix, Social Networks, Strategic Entrepreneurship, and Leadership.

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LIST OF ABBREVIATIONS

AEC	ASEAN Economic Community
ASEAN	Association of Southeast Asian Nations
CDA	Cluster Development Agent
CMI	Cambridge-MIT Institute
CMRU	Chiang Mai Rajabhat University
CM-TBA	Chiang Mai-Tourism Business Association
CMU	Chiang Mai University
CMU-CAMT	College of Arts, Media, and Technology, Chiang Mai University
CP	The Charoenpokphand Group
HRP	Human Resource Planning
ICT	Information and Communications of Technology
ISO	International Organisation for standardisation
JAA	JEAustin Association
KIAsia	Kenan Asia
KIC	Knowledge Integration Community
KSF	Key Success Factors
KU-CSC	Kasetsart University Chlermphrakiat Sakon Nakhon Province Campus
KU-KPS	Kasetsart University Kamphaeng Saen Campus
M-Industry	Ministry of Industry
MNC	Multinational Corporation
LIFT	Leith Initiative for Tourism
MICE	Meetings, Incentives, Conferences, Exhibitions
MIT	Massachusetts Institute of Technology
MITI	Ministry of Internal Trade and Industry
MNC	Multi-national Corporation
MOE	Ministry of Education

MOI	Ministry of Interior
MOTS	Ministry of Tourism and Sports
MOU	Memorandum of Understanding
NESDB	National Economic and Social Development Board
NGOs	Non-Governmental Organisations
NIC	Newly Industrialized Country
NIS	National Innovation System
NSTA	National Science and Technology Development Agency
ONIE	Office Non-Formal and Informal Education
OSM Andaman	The Office of Strategy Management of Southern Province Cluster
OSMEP	Office of Small and Medium Enterprise Promotion
OTOP	One Tambon (subdistrict) One Product
PAO	Provincial Administrative Office
PKRU	Phuket Rajabhat University
PPEO	Provincial Primary Educational Office
PU	Payap University
QA	Quality Assurance
SASIN	Sasin Graduate Institute of Business Administration of Chulalongkorn University
SAO	Sub-district Administrative Office
SMEs	Small and Medium-sized Enterprises
SMTEs	Small and Medium-sized Tourist Enterprises
SN	Social Networks
SNRU	Sakon Nakhon Rajabhat University
SNUK	Sakon Nakhon, Nakonpanom,Mukdahan,Kalasin
SWOT	Strengths, Weaknesses, Opportunities, Threats
TAT	Tourism Authority of Thailand
TCI	Thailand Competitiveness Initiative

TDRI	Thailand Development Research Institute
TUT	Toyohashi University of Technology
U-I-G	University-Industry-Government
UILs	University Industry Linkages
UNIDO	United Nation Industrial Development Organisation
UNWTO	United Nation World Tourism Organisation
USAID	The United States Agency for International Development

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This thesis is an exploratory research study that integrates three strands of literature: Cluster Theory, Triple Helix and Social Networks, in order to enhance understanding of tourism development in Thailand. Universities are increasingly important sources of knowledge. So this study investigates the relevance and the capacities of their linkages between tourism clusters and universities in Thailand. Within the University-Industry Linkages (UILs), there are several activities that range from training courses to innovation. This study will search for a balance between utilizing human resources and innovation in service industries, particularly Tourism clusters, in Thailand. A model will be produced to suit Thai society.

After the financial crisis in 1997, many businesses went bankrupt and so the Thaksin government employed a competitiveness policy to support and develop businesses. With the help of the United States Agency for International Development (USAID), the Thailand Competitiveness Initiatives (TCI) was established in 2001 in order to accelerate Thai economic recovery from the Asian Financial Crisis (USAID, n.d.). A competitiveness initiative was chosen because it promised to provide value to a large number of SMEs and other companies while putting Thailand on the way to a sustainable recovery based on the ability to compete effectively in world markets (USAID, n.d.). Since then the cluster has been used as one key mechanism of strategies in the hope of increasing national competitiveness and of pushing the country forward to compete in a rapidly changing world. Thus, the Thai government has established a business cluster development policy across the country for improving the competitiveness of the nation. In 2002, the Thai government invited Michael E. Porter to be a distinguished guest speaker to discuss the possible competitive advantage of his model in Thailand (Phinaitrup, 2012). The reason why the Thai government adopted the cluster initiative because this concept was used in many countries and was that clustering initiative project were successful in other countries (Porter 1990). In 2006, National Economic and Social Development Board

(NESDB) hired Kenan Asia (KIASIA) to undertake the Cluster Mapping Project. In comparing the 152 clusters identified and the 60 clusters selected for field survey it was found that of the initiate 152 clusters, 53.3 per cent of 60 clusters selected from the group, were still at the formation stage. Of the 60 clusters selected from the field survey 20 cluster were selected for their potential as the pilot projects to promote successful cluster development (NESDB 2006). However, from 2006 onwards there has been little follow-up of the progress of these 152 clusters, and it is not known how they have progressed, or even whether they still exist. A deep understanding of these clusters is essential for enhancing Thai competitiveness.

Tourism is the lifeblood of Thailand and the tourism industry generates an important part of the country's income. The tourism industry has played an important role in the Thai economy by attracting foreign revenue: according to Ministry of Tourism and Sports figures, the earnings totalled 776 billion baht (US\$25.45 billion) in 2011 (www.tat.or.th). Tourism is one of the sectors that bring in substantial foreign income, accounting for as much as 40 per cent of the service receipts in the current account and approximately six per cent of Thailand's GDP (www.bot.or.th). The industry also maintains extensive linkages with other sectors (www.bot.or.th). According to the Bank of Thailand (2010), one baht spent by foreign tourists translates on average into an increase in manufacturing production of 1.86 baht and an increase in national income by 0.8 baht. One explanation for these relatively large multipliers is the size of employment in the tourism sector. Directly linked to the tourism industry, hotels and restaurants alone employ 6.4 per cent of the country's labour force (www.bot.or.th). In addition, tourism-related employment extends to transportation, tour guiding, retail sales, souvenir production, and recreation (www.bot.or.th). In order to improve Thai tourism clusters' competitiveness, Thailand needs to move beyond reliance on its natural resources and cheap labor for upgrading the quality and variety of its services. As Tirasatayapitak (n.d.) stated in her study of the Thai strategy on a sustainable tourism industry, Thailand's potential has started to lessen.

According to Brimble and Doner, 2007 cited in Freeman's work (1987), University-Industry Linkages (UILs) are key components in the country's national innovation system (NIS); UILs can help Thai producers to initiate, import, modify and diffuse technology. In addition, UILs can provide support in other areas such as human resources and academic service. This can also be applied to service industries, especially the tourism industry. It is evident that the tourism industry is demand driven and that it needs an appropriate response strategy. It has been accepted that we are in a highly competitive world, and that the way to survive and grow is to learn how to compete by using advanced information technologies and creating unique opportunities. Thus, if the linkages between universities and tourism clusters are strong, they can improve the clusters' performance, efficiency and ability to innovate. They can do this by an increased transference of knowledge and skills. The support network work of Kenny (2008) shows that several companies have been directly affiliated with universities: Yahoo, Seagate, Google, 3Com, Sun Microsystems, Cadence. This is evidence that academic institutions can play a significant role in assisting clusters by creating increased information networks that can lead to innovation.

However, the study of UILs in the service industry is inadequate - in particular the tourism industry in Thailand. Thus, a deep understanding of UILs in tourism clusters is necessary for enhancing competitiveness. Developing the linkages between universities and clusters is very important. This study will investigate the linkages between universities and tourism clusters in Thailand and how these linkages enhance the competitiveness of Thai tourism clusters. The obstacles that need to be overcome for effective linkages will be also be investigated.

1.2 Background of Research

1.2.1. Context of Research: Why Thailand?

I. Tourism Overview

Over the past six decades, tourism has experienced continued expansion and diversification becoming one of the largest and fastest growing economic sectors in

the United Nation World Tourism Organization (UNWTO, 2011). Over time, an ever-increasing number of destinations have opened up and invested in tourism development, turning modern tourism into a key driver of socio-economic progress through the creation of jobs and enterprises, infrastructure development and the export revenues earned (UNWTO, 2011). The United Nation World Tourism Organisation (UNWTO) has displayed International Tourists Arrivals and forecast long-term tourism between the year 1950 - 2020 as illustrated in Figure 1.1.

UNWTO s Tourism 2020 Vision projects that international arrivals are expected to reach nearly 1.6 billion by the year 2020 (UNWTO, 2011).

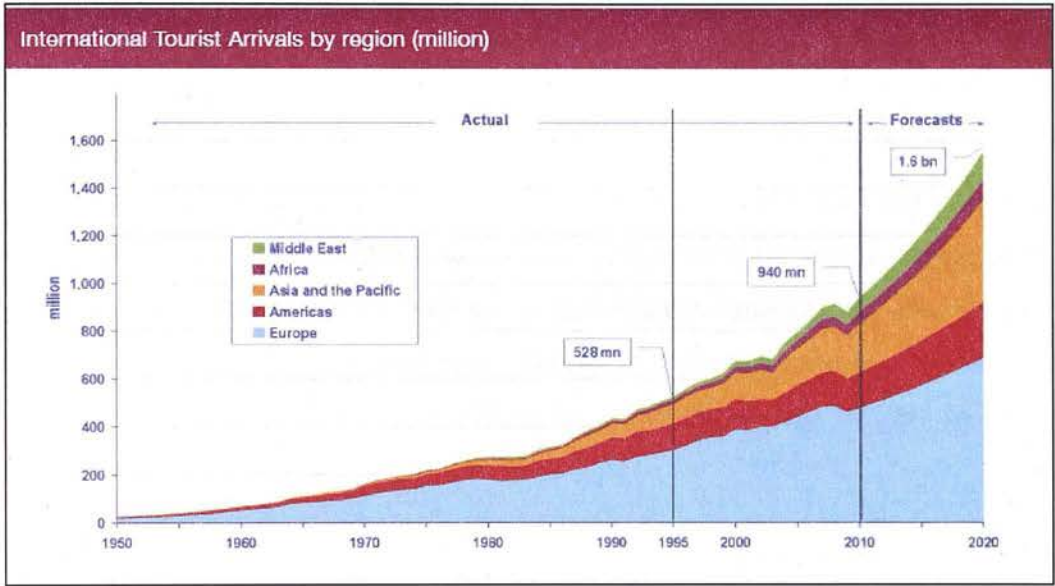


Figure 1.1: Forecast of International Tourist Arrivals: 1950-2020; Source: UNWTO (2011)

Table 1.1 shows the total tourist arrivals by region. By 2020, the top three receiving regions will be Europe (717 million tourists), East Asia (397 million) and the Americas (282 million), followed by Africa, the Middle East and South Asia (UNWTO, 2011).

International Tourist Arrivals by region (million)						
	Base year	Forecasts		Average annual growth rate (%)	Share (%)	
	1995	2010	2020	1995-2020	1995	2020
Total	565	1,006	1,561	4.1	100	100
Africa	20	47	77	5.5	3.6	5.0
Americas	109	190	282	3.9	19.3	18.1
East Asia/Pacific	81	195	397	6.5	14.4	25.4
Europe	338	527	717	3.0	59.8	45.9
Middle East	12	36	69	7.1	2.2	4.4
South Asia	4	11	19	6.2	0.7	1.2
Intraregional (a)	464	791	1,183	3.8	82.1	75.8
Long-haul (b)	101	216	378	5.4	17.9	24.2

Source: World Tourism Organization (UNWTO) ©

Notes: (a) Intraregional includes arrivals where country of origin is not specified.
(b) Long-haul is defined as everything except intraregional travel.

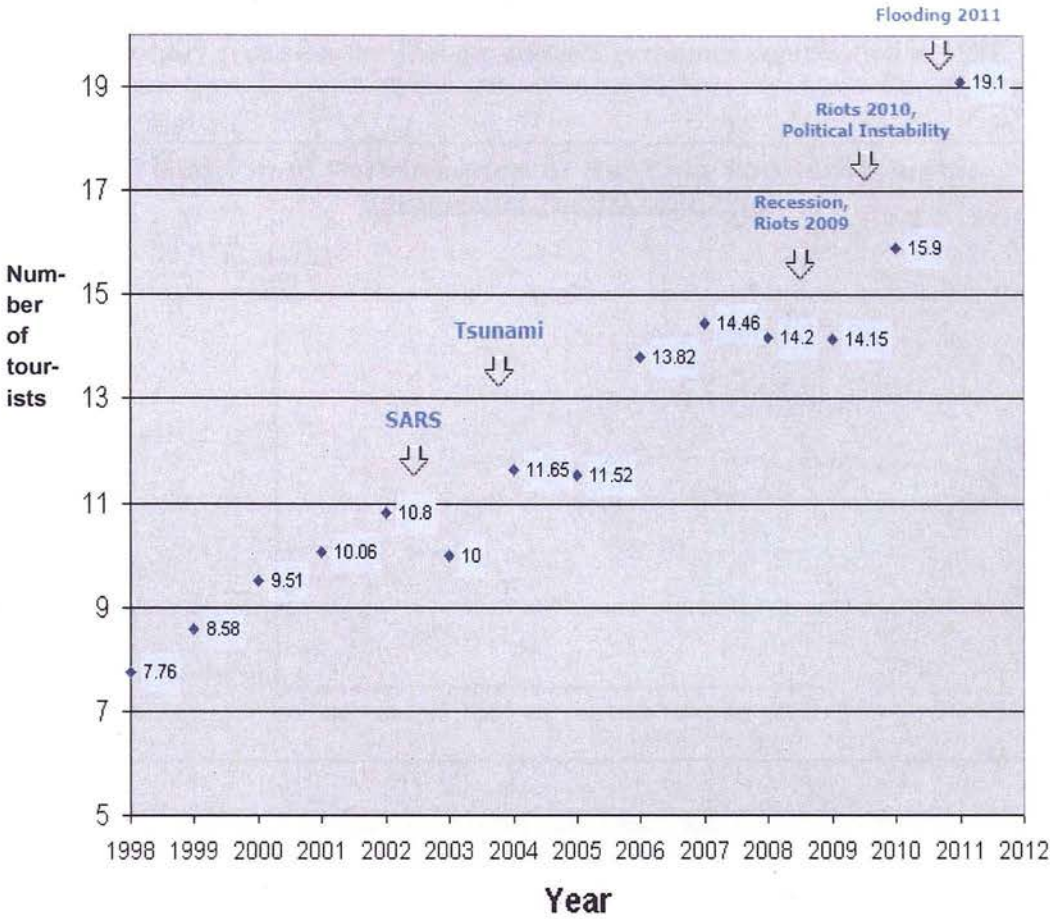
Table 1.1 International Tourist arrivals by region; Source: UNWTO (2011)

In addition, East Asia and the Pacific, South Asia, the Middle East and Africa are forecast to grow at over five per cent per year, compared to the world average of 4.1 per cent. More mature regions such as Europe and the Americas are anticipated to show lower-than-average growth rates. Europe will maintain the highest share of world arrivals, although this share will decline from 60 per cent in 1995 to 46 per cent in 2020 (UNWTO, 2011).

Tourism is one of the fastest growing worldwide industries and, at the same time, is the main source of income in foreign currency for developing countries. (Iordache *et al*, 2010) As growth has been particularly fast in the world's emerging regions, the share in international tourist arrivals received by emerging and developing economies has steadily risen from 31 per cent in 1990 to 47 per cent in 2010 (UNWTO, 2011). As a result, each country attempts to find ways of attract more tourists to come to their country and to spend more nights there. However, due to high competition in the global market the government in each country has launched intense projects to promote its country including the use of new advanced technologies as a means of improving access for tourists all around the world

During 1987, the "Year of the Tourist," Thailand hosted over three million visitors, principally from Europe, America, Japan, and other Asian nations. The average tourist spent \$100 a day and stayed six days (Ketudat, 1990). Tourism has become the number one foreign exchange earner of the Thai economy ahead of garments, rice, gems and jewellery, tapioca, and rubber (Ketudat, 1990). Also, Ketudat (1990) argued that this is truly an historic phenomenon: no expert on the Thai economy would have projected, thirty years ago, that within a generation tourism would displace rice as the primary source of foreign exchange. Even though Thailand has several national plans, external factors such as the global recession, instability and political factors, have significantly affected the achievement of these national plans.

It can be seen from Figure 1.2 below that international arrival to Thailand from 1998 to 2011 show a significant rise from 1998 onwards. There are significant dips with the SARS epidemic, and after the tsunami of 2004. The global recession from the end of 2008, political disturbances in 2009 and 2010, and also the floods in 2011 had an effect on tourist arrivals (Thaiwebsites.com). Since somewhere in the middle of 2008 a severe worldwide recession dampened the desire to travel. Thailand furthermore suffered from political instability, starting with the closure of Suvarnabhumi Airport (26 November 2008, by the Yellow Shirts protesters). A Red Shirt mob invaded the East Asia Summit in Pattaya on 11 April 2009, leading to a cancellation of the summit, with world leaders scurrying away to safety. This was followed by violent riots the next day (during Songkhran) and the declaration of a state of emergency by PM Abhisit Vejjajiva (Thaiwebsites.com). Thailand's tourism industry makes up about six per cent of Thailand's GDP (www. bot.or.th). When seeing the number of tourists, and the number of tourist destinations and hotels, one would actually expect a more substantial portion of GDP. But Thailand's tourism industry, while very visible, brings in much less money than other service industries, and certainly less than its manufacturing industry (Thaiwebsites.com).



It can be seen from the Table 1.2 that from 1960 to 2006, the number of foreign tourists increased dramatically from 81,340 to 13,821,802. Also, the length of stay has increased from three days in 1960 to eight days in 2005.

Year	Number of Arrivals	Average Length of Stay (Days)
1960	81,340	3.00
1965	225,025	4.80
1970	628,671	4.80
1975	1,180,075	5.00
1980	1,858,801	4.90
1985	2,438,270	5.58
1990	5,298,860	7.06
1995	6,951,566	7.43
2000	9,508,623	7.77
2005	11,516,936	8.13
2006	13,821,802	not available

Table1.2 International Arrivals and Average Length of Stay; Source: Cohen (2008).

However, Figure 1.3, demonstrates that the revenue per tourist decreased dramatically even after the Thai government’s currency depreciation in 1997.

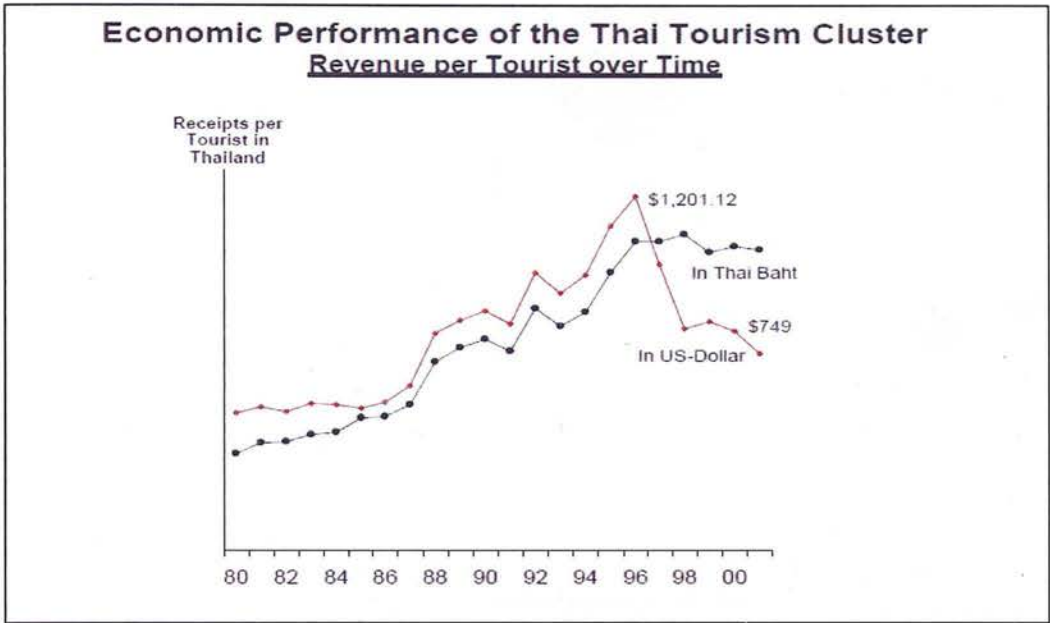


Figure 1.3 Revenue per Tourist from 1980-2000; Sources: Porter (2003)

Based on Porter’s analysis of the tourism industry in Thailand, Thailand generates less revenue per tourist (see figure 1.4) Thailand has not been able to increase the revenue per tourists over time. Even after the 1997 devaluation, revenues in terms of the Thai Baht only remained stable, while tourists reduced their spending in terms of the US-Dollar (Porter, 2003).

Tourism Clusters in the World Economy

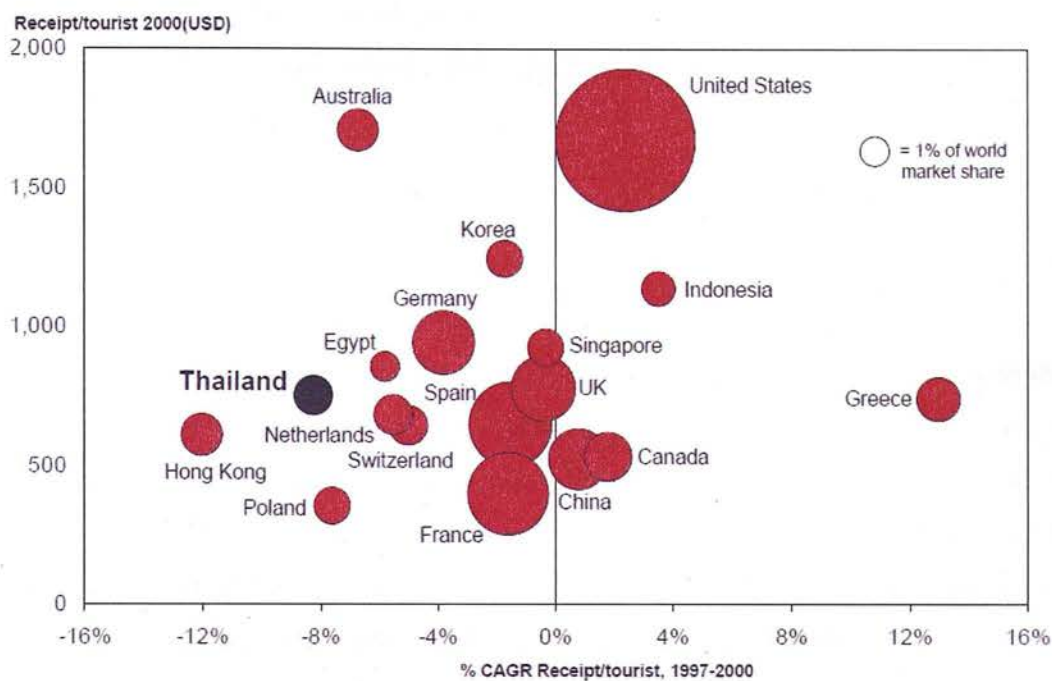


Figure 1.4 Tourism Clusters in the World Economy
Source: Porter (2003)

According to Porter’s presentation in Thailand (Thailand’s Competiveness: Creating the Foundations for Higher Productivity, 2003) there is no overarching strategy for the development of clusters, despite the existence of many industry associations for different parts of the cluster, and of many different strategic plans. Porter (2003) also stated that the absence of a clear strategy is a key factor in the inability of the cluster to capture greater value from tourists. In addition, Porter analysed Thailand’s cluster vision as the world leader in niche markets such as tourism, food, automobile, fashion and software. In terms of the Thai tourism vision, ‘Tourism Capital of Asia’, Porter also stated that this was important with potential for significantly higher value creation but that lack of shared vision is a critical constraint (Porter, 2003).

In addition, Porter (2008) suggested that developing economies should upgrade their traditional clusters including agriculture, and never abandon them. Recruitment of foreign direct investment should focus on existing and emerging clusters, not generalized appeals. Incentives should be weighted toward training, infrastructure,

and other areas that upgrade the cluster, rather than providing general subsidies. In addition, Porter (2008) stated that existing Multinational Corporations (MNCs) could become nodes for cluster development and that the best way of retaining companies was to make them part of a cluster that supports higher local productivity.

II. National Tourism Development Plan Tourism Policy in Thailand

According to the Government Public Relations Department (2011), Thailand has a vision to become a quality tourism destination with tourism competitiveness at the international level, thus enabling the country to generate more income and distribute wealth on a sustainable basis. The vision is contained in the National Tourism Development Plan, 2012-2016, which won cabinet approval on 15 February 2011, when the National Tourism Policy Committee referred to the inclusion of tourism in the national agenda by the cabinet, during its meeting in April 2009.

The objective of the National Tourism Development Plan is to move Thailand's tourism competitiveness up at least 15 places, which would put it among the top five destinations in Asia. The plan also intends to increase tourism income by at least five per cent during the five-year period. In order to achieve this aim, five strategies have been set for implementation as quoted in (Government Public Relations Department, 2011) as follows:

- i. The first strategy seeks to develop infrastructure and logistics, linking with domestic and international tourism.
- ii. The second strategy involves the development and rehabilitation of tourism sites and improvement of various rules and regulations to enhance the country's potential for accommodating more tourist arrivals. Standardize tourism products in order to attract quality tourists.
- iii. In the third strategy, emphasis will be placed on the development of the creative economy (CE), which is the focus in the 11th National Economic and Social Development Plan, 2012-2016. New products and services will be

launched, while incentives for tourism trade and investment will be offered and human resource development (HRD) will be emphasised.

- iv. The fourth strategy seeks to create confidence in Thailand's good image among visitors, so that the country will welcome a greater number of tourists who will spend more in Thailand.
- v. The fifth strategy calls for the participation of the public sector, civil society, and local administrative organisations in tourism management.

However as Wirudchawong (2012) argued in relation to the role of government with tourism, the government tends to make flowery statements (policy statement of the council of ministers) that tourism generates huge revenues for the country, but in practice they are only interested in mega projects and overlook social and environment dimensions.

In addition, political instability can cause tourism arrivals and receipts to plummet (Richter, 1992). While recent unrest in both the capital of Thailand as well as the provinces has been brought under control, the events had a significant impact on the flow of tourists, a major source of jobs and export revenues for the country. Against this background, a special meeting of international solidarity with the Thai tourism industry was organized by UNWTO and the Pacific Asia Travel Association (PATA), in Bangkok in collaboration with the Ministry of Tourism and Sports of Thailand (PATA, 2010). UNWTO Secretary-General, Taleb Rifai, and PATA CEO, Gregory Duffell, stated:

Drawing on the experience gained from the UNWTO Tourism Resilience Committee, valuable lessons and strategies used by other Member States to confront similar crisis situations will be shared. This meeting also represents an expression of solidarity with Thailand from the international tourism community. Tourism plays a major role in the social and economic development of Thailand, contributing significantly to its GDP and job creation', he added. "With government support, collaboration between the public and private sector and the support of the international tourism community, the Thai tourism industry is sure to recuperate its losses and maintain its position as one of the major tourism destinations worldwide."

(PATA, 2010)

In addition, Thailand recorded a 31 per cent increase in tourism receipts in 2011 over 2010, according to Ministry of Tourism and Sports figures; the total earnings of 776 billion baht (US\$25.45 billion) (www.tat.org.th). Thailand recorded 19.23 million international visitors in 2011, up by 20.67 per cent over 2010. With an average length of stay of 9.64 days and an average daily spend of 4,187.12 baht (US\$137) per person (www.tat.org.th).

In summary, whereas tourism continued to increase both globally, and in the Pacific region, the number of tourists in Thailand decreased dramatically after the political unrest of 2008 and flooding in 2011. However, in the wake of the government's tourism promotion campaign, tourists started to arrive in larger numbers but at the low end of the market in the big cities. In addition, Thailand was imaged as a cheap destination. As the saying goes "more for less".

1.3 Research Motivation

I have worked for Kasetsart University, Sakon Nakhon Campus, in Thailand for more than 10 years. I worked as the secretary of a Small and Medium Enterprises (SMEs) project established by SNUK (Sakon Nakhon, Nakhon Panom, Mudahan, Kalisin). In the course of this work, I was able travel to many villages. In these villages nowadays there are only elderly people and children because the young people have to go to work in big cities, especially Bangkok. This experience led me to the belief that universities could help to remedy this situation through utilizing the intellectual capital especially the expertise of their professors and lecturers. The aim would be to use university resources to help communities in many practical ways and especially to create jobs for young people in terms of 'green' innovation. In addition, local universities could help preserve local knowledge and help local society to develop and prosper.

It is stated duty of universities to help society on the ground. As the president of Mahasarakham University, Thailand stated that the idea is that universities of today should play an important in helping society and that is, higher education institution should take on an anticipatory role - to serve as observatory and think tanks in order

to foresee and alert society to emerging trends and to help prevent major crises before they happen (QS Showcase Asia, 2013). We must, therefore, use our homegrown talents, natural resources, local knowledge, Buddhist beliefs and the local identity special to each area to assist the young to make good lives for themselves locally. It is my belief that by working together the local university, local businesses, and public sector officials in rural areas can bring this about.

1.4. Research Objectives and Research Questions

Objective I: To investigate the nature and character of the tourism clusters and the linkages between each tourism cluster and its universities

1.4.1. What is the current nature and character of tourism clusters and the linkages between tourism clusters and their universities?

- a) What is the nature and character of the tourism clusters and linkages between tourism clusters and their universities?
- b) What is the role of the university towards the tourism cluster?
- c) What are the attitudes of participants in tourism clusters towards the linkages?

Objective II: To create a model applicable to improving University-Industry Linkages in Thailand in order to support successful tourism clustering

1.4.2. What are the influential factors affecting the Thai tourism clusters?

- a) How have external factors, such as political and socio-technological factors, affected Thai tourism clusters?
- b) How have internal factors, such as inherent strengths and weaknesses, affected Thai tourism clusters?

1.4.3. How might University-Industry Linkages assist the success of tourism clusters?

- a) What are the barriers for UILs between Thai tourism clusters and universities?
- b) How can the UILs between Thai tourism and universities be improved?

- c) How can the competitiveness of tourism clusters be enhanced through UILs?

1.5 Significance of the study

This thesis presents a theoretical challenge through identifying the literature gap and in addressing it. It is also of practical significance through providing a greater understanding of the key influential relationships affecting tourism.

1.5.1. Theoretical Challenge

Thai UILs

According to the Commission on Higher Education of Thailand (2007) and Mongkhonvanit (2008), the Thai university's functions are as follows:

- a) To produce graduates with a high-level professional skills and moral integrity to meet the need for human resources;
- b) To generate new knowledge through research and scholarship to strengthen the regional and national economics of self-reliance and international competitiveness;
- c) To provide academic and technical services to state and private enterprises through research training and consultancy activities in order to ensure an efficient, necessary and appropriate technology for social and economic development at regional and national levels;
- d) To conserve and promote the traditional arts and culture of the region and the nation so that the university is perceived as a model center of community life worthy of emulation.

The role of the university in relation to tourism is primarily that of producing graduates to work in tourism related activities, alongside doing the research with both the public and private sectors to improve the performance of the organisations. Thereafter follows the academic services such as training course, consultancy and IT.

Several studies such as that of Porter (2003), suggested that developing economies should upgrade traditional clusters including agriculture, and never abandon them. In terms of company operations and strategy overview, Thailand's relative strengths and weaknesses, lie in competing in global commodity markets based on low costs of factor inputs. Its narrow presence in the value chain brings weaknesses in marketing, brand development, and the control of international distribution channels, plus low investment in human resources and innovation.

Intarakumnerd and Schiller (2008) emphasize that appropriate explanations of UILs in developing countries like Thailand are still weak. Similar to former studies on Thai UILs through both national and sectoral levels, Brimble and Doner (2007) examined four important sectors - automotive, textile-garments, agro-industry, and hard disk drives and found that Thai UILs are frail. In addition, Brimble and Doner (2007) state that Thai firms must meet increasingly tougher requirements from multinational firms. Competitive pressures for quality, price, and delivery have elevated the opportunities for local concentrations of value chains within countries, such as Thailand. But the ability to take advantage of these opportunities depends in no small part on the development of knowledge-centred capabilities that in turn can be enhanced through UILs. Thailand's record in this area is not impressive (Brimble and Doner, 2007). A recent World Bank analysis reported that nearly a quarter of Thai firms were operating below full capacity due to skill shortages; that firms must pay a significant wage premium for tertiary graduates; that Thailand is currently producing fewer secondary education graduates than countries at similar development and income levels; that the quality of Thai secondary graduates is lower than those of peer countries; and that almost half of firms surveyed assessed the IT skills of their production workers as "very poor" (Brimble and Doner, 2007, World Bank, 2005a:38).

In terms of UILs barriers, professors in Thai universities often mentioned industry-side limitations, e.g. industrial partners who are not willing to cooperate or are not available in the relevant research fields. This is a clear indication of a lack of coordination between the work of universities and companies, of a limited

knowledge about potential partners, and of a lack of trust and communication. However, it is not a clear indication that the universities do not have the capacity to be relevant in the development and improvement of clusters in Thailand.

Industries	Gaps	Academia
-Passive actors in initiating cooperative projects	-Lacking continuous cooperative projects or activities and motivation for collaboration	-Major activities are not two-way cooperation. Education institutes usually initiate and dominate the relationship
-No tangible/substantial activities that might lead to collaboration with education institutes	-Missing clear goals and objectives of the collaboration	- Linkages are more or less in terms of asking for help than achieving the project together for maximum benefit of both parties
	-Lacking assistants/coordinators who can understand both sides, coach, and foster the relationship -Lacking analysis of problem from the industry's perspective	-No substantial linkages in terms of R&D projects

Table 1.3 Gaps in industry-academic collaboration

Source: College of Management, Mahidol University (2003); Mongkhonvanit (2008).

Studies by Mongkhonvanit (2008), College of Management, Mahidol University (2003), showed the gap in industry-academic collaboration as illustrated in table 1.3.

To create a model applicable to improving University-Industry Linkages (UILs) in Thailand in order to enhance the competitiveness of tourism clustering then this research uses Cluster theory (Porter, 2008), the Triple Helix model (Etzkowitz, 2008), Social Networks (Castells, 2000) as the major framework for understanding and analyzing the relationship between Thai universities and tourism clusters in Thailand.

On Clustering theory, Porter (2008) places emphasis on innovation by using advance technology and economic growth but less emphasis on the social dimension. Whereas the Triple Helix model by Etzkowitz (2003) puts the emphasis on the entrepreneurial university as the key to knowledge transfer the incubation of new firms. However, in my opinion the university can support communities in terms of academic service. Social Networks theory by Castells (2000) is empowered by new information/communication technologies but it is informal and has no clear boundaries. Moreover, it depends on volunteers which indicate a lack of commitment. This model lacked the mechanisms, continuous assessment and commitment for both short and long term objectives among organisations.

1.5.2. Practical Significance

- a) This research will provide a greater understanding of the key influential relationships affecting the effective Thai tourism clusters, which in turn will contribute to improving the performance of tourism clusters.
- b) The results of this study will make known the current dynamics of the relationships between universities and Thai tourism clusters.
- c) The results of this study may assist in strengthening linkages between the tourism industry and universities.
- d) They may also help to develop economic growth through job creation and through the provision of skilled labor.

1.6 Overview of Research Process

The research is organized into six operational steps in the research process (see figure 1.5 below).

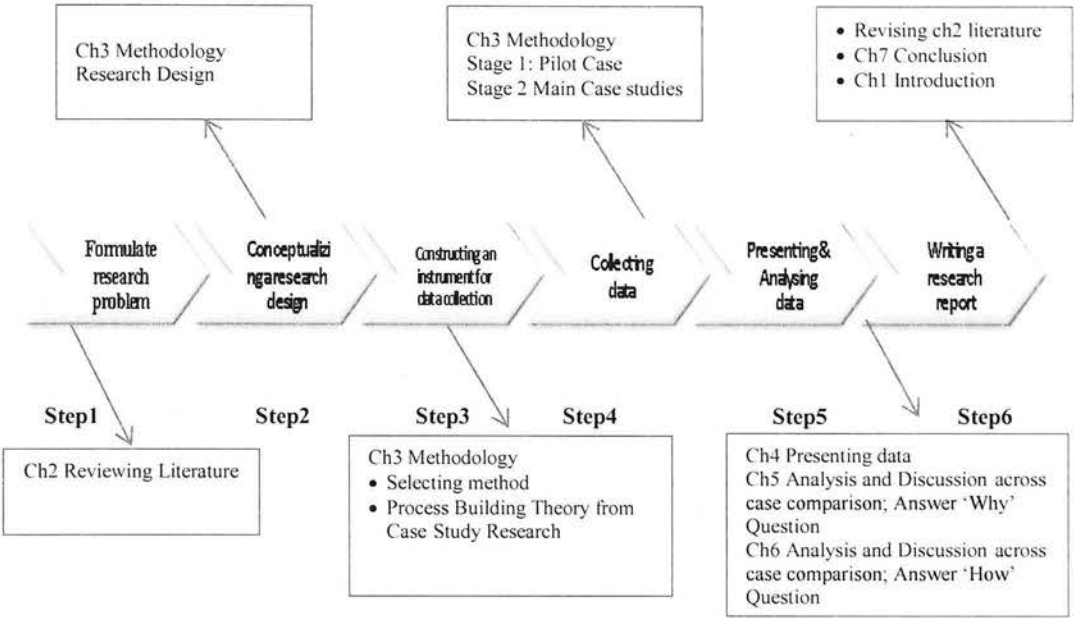


Figure 1.5 Research Process
Source: Adopted from Kumar (2005)

1.7 Thesis Structure

The research is divided into seven chapters as follows:

Chapter One: Introduction

This chapter presents an introduction to this study. The chapter is structured as follows. There is an introductory section that explains the background to the research that covers the context of the research such as - why Thailand and why tourism policy in Thailand and what is the research motivation? It then states the research objectives and research questions. An overview of the research process is also presented. This research is organized into the six operational steps in the research process ‘formulating a research problem’ was the first step in the research process.

Then, I reviewed literature to identify any gaps. The second to fourth step was ‘conceptualising a research design’, ‘constructing an instrument for data collection’ and ‘collecting data’, explaining why the methodology was used and how it was used. The fifth step was ‘presenting data and analysing across case studies’, which included chapter four presenting data and within case analysis and chapter five’s analysis and discussion across case comparison, answering the ‘why’ question and chapter six’s analysis and discussion across case comparison, answering the ‘how’ question. The sixth step was writing a dissertation (see Fig 1.4). Thereafter, I re-studied literature review following the discovery of the findings. I give a brief explanation of each chapter.

Chapter Two: Literature Review

The literature review provides an overview of existing research that bears upon the research questions. It covers clusters theory, tourism clusters, the Triple Helix Theory, University- Industry Linkages (UILs), and Social Networks. The literature review builds on these issues and has the following objectives: 1) To critically evaluate previously published literature that examines Clustering, Triple Helix, UILs, and Social Networking; 2) To identify any gaps in the reviewed literature that I would like to research and investigate further; 3) To propose a derived framework and model useful for understanding the development of Thai tourism clusters within the context of Thai society and culture.

The chapter is structured as follows: 2.1) overview; 2.2) Cluster Theory which covers significance, the role of clusters in fostering the economy, cluster formation, the nature and character of clusters, challenges that impact upon tourism clusters, cluster development, cluster decline, barriers, Key Success Factors (KSF); 2.3) Triple Helix Model, University-Industry-Linkages (UILs) and explores the role of universities as participants in the Thai tourism clusters; 2.4) Social Network trends impacting on tourism, effective tourism clusters; 2.5) Synthesis: 2.5.1) Synthesis of the Conceptual framework, 2.5.2) Synthesis of the Empirical framework; 2.6 Derived Conceptual Framework.

Chapter Three: Methodology.

This chapter explains why the methodology was used and how it was used. The chapter was organized into eleven parts: 3.1) introduction; 3.2) Research objective; 3.3) Philosophy of the research covering strengths and weaknesses of the positivism and the phenomenological approaches; 3.4) Research strategy; 3.5) Research design. In this section I describe choices that are particularly significant and give an overview of the methodological approach; 3.6) Methodological approach. I used case studies to understand and explain the nature and characteristics of University-Industry Linkages (UILs) between Thai tourism clusters and their universities. A theoretical framework was developed describing how UILs can enhance the competitiveness of tourism clusters. I used mixed methods to seek to develop a theory relating to case studies. There are two stages of data collection: a pilot case study and four main case studies; 3.7) Methods; 3.8) Discussion of data analysis methods; reliability, validity, and language issues; 3.9) Ethical issues.

Chapter Four: Presentation and Within Case Analysis

This Chapter provides the data presentation in the form of a within case study analysis. It presents the primary and secondary data findings of the research in two stages: the first stage covers cluster formation, the role of actors, and strategy and policy discussed and issued at the national level by governmental and non-governmental bodies. Also for sake of triangulation, a successful cluster is presented in order to give different views of how policies and strategies play an important role in enhancing business through the interaction of different connected bodies like universities and government offices. The second stage of the data presentation covers the primary and secondary data findings from the local level of different geographical clusters. Four case studies, based upon 66 interviews, Reports and documentation are presented so as to reveal the empirical data investigation.

This chapter explains what each case study reveals from the empirical data and presents the empirical data in the form of thematic analysis. The chapter is

structured as follows: 4.1) introduction; 4.2) presents the national level comprehensive illustration of all policies, strategies and role played by governmental and non-governmental bodies in strategy implementation. It also covers a case study that represents a successful cluster; 4.3) presents four Case Studies at the local level in three provinces in three regions: Northeast- Sakon Nakhon - Indigo Textile Cluster South- Phuket Tourism Cluster North- Chiang Mai; Edutainment Cluster, and Hotel de Charm Cluster.

Data presentation and analyses are guided by the conceptual framework as explained in the methodology chapter. Data presentation and analysis of all case studies are carried out through different themes and are presented in a flowchart and a tabular format. The summary of Chapter four is presented in the last section, 4.4.

Chapters Five: Analysis and Discussion across case comparison: Answering the ‘Why’ Question

The purpose of this chapter is to analyse and discuss the empirical findings in order to achieve the first objective of this thesis: to investigate the nature and character of linkages between tourism clusters and universities. The analysis and discussion of data is done across case studies for the sake of comparison and triangulation with literature. The different themes are analysed and discussed across cases and are compared to the literature to confirm, extend or disagree with it. This chapter answers the thesis research question of “*Why do clusters decline or succeed?*” by addressing the theme of Characteristics, Challenges and Cluster Development across case studies. The thesis’ research questions will be addressed through a cross case thematic analysis and discussion comprised of major categories of themes as identified during the research while adhering to the working conceptual framework. The thematic analyses are classified into three categories: 1) Characteristics: Current Situation and Strengths and Weaknesses; 2) Challenges: external and internal factors; 3) Cluster Development: Cluster Development: Why was the cluster unsuccessful? What are the Barriers and Key Success factors?

This chapter is structured as follows: Section 5.2 discusses the characteristic of the linkages towards tourism clusters. Section 5.3 discusses the challenges from the general environment that affect tourism clusters through analysing both influential external and internal factors. Section 5.4 examines the cluster development across all case studies and identifies the pattern of the reasons for failure. This section also examines the key success factors indicating the role of universities towards tourism clusters. The different themes are analysed and discussed across cases and are compared to the literature to confirm, extend or disagree with the literature. This chapter concludes with section 5.5 as a summary to all relevant themes analysed and discussed.

Chapter Six: Analysis and Discussion across case comparison: Answering the ‘How’ Question

The purpose of this chapter is to continue to analyse and discuss the empirical findings in order to achieve the second objective of this thesis: to examine the possible model applicable to improving University – Industry Linkages in Thailand in order to support successful tourism clustering. As in chapter six, the analysis and discussion of data is done across case studies for the sake of comparison and triangulation with the literature. The different themes are analysed and discussed across cases and are compared to the literature to confirm, extend or disagree with it.

This chapter answers the thesis research question of *“How to improve the University-Industry-Linkages and How to enhance the competitiveness of tourism clusters through UILs”* by addressing the themes of Strategic Formation, Strategic Implementation, Triple Helix effects across case studies. The empirical research revealed some important emergent themes, which are analysed and discussed across the case companies as well. These emergent themes are: Leadership and Strategic Entrepreneurship.

The thesis’ research questions will be addressed through a cross case thematic analysis and discussion comprised of major categories of themes as identified during the research while adhering to the working conceptual framework. This

chapter is classified into four themes: Theme One: Strategic Formation; Theme Two: Strategic Implementation; Theme Three: Social Networks; Theme Four: Triple Helix effects, Emergent Themes:

This chapter is structured as follows: Section 6.1) introduction; section 6.2) discusses the Strategic Formation of tourism clusters; Section 6.3) examines the Strategic Implementation of tourism clusters; Section 6.4) investigates the Social Network of tourism clusters in relation to the University, Private and Public Sectors; 6.5) investigates the Triple Helix effect of tourism clusters and the Interaction of University, Private and Public Sectors. The emergent themes are analysed and discussed in Section 6.6. Finally Section 6.7 sums up the analysis and discussion and presents the modified conceptual model that explains the effect of the new emergent themes on the initial model.

Chapter Seven: Conclusion

This chapter presents conclusions both referring to theoretical and empirical contributions, including recommendations for the public and private sectors and the university. This chapter is structured as follows: - 7.1) theoretical contribution; derived from the integrated framework that has four components covering Cluster Theory, Triple Helix, Social Networks, Strategic Entrepreneurship towards Tourism Clusters; 7.2) empirical contribution; 7.3) recommendations for the private and public sector and university; 7.4) evaluation of the study and future research derived from this study of the relationship between universities and industry featuring the case study of Thailand's tourism clusters and its limitations, concluding with 7.5 suggestions for future research.

CHAPTER TWO

LITERATURE REVIEW OF ANALYTICAL FRAMEWORK AND THEIR APPLICATIONS

2.1. Overview

The literature review provides an overview of existing research that has a bearing on the research questions. It covers clusters theory, effective clusters, tourism cluster, Triple Helix, University-Industry Linkages (UILs).

The literature review builds on the issue above and has the following objectives:

1. To critically evaluate previously published literature that examines clustering, Triple Helix, UILs, and Social Networking;
2. To identify a gap in the reviewed literature that I would like to research and investigate further;
3. To propose a derived framework and model useful for understanding the development of Thai tourism clusters within the context of Thai society and culture.

The purpose of the literature review is to examine the current theory of clustering and characterize the dynamic of tourism clustering in Thailand and current research on UILs. The concept of Thai tourism clusters with UILs, competence and technology and the view of the innovative tourism cluster as a learning social network. Organisations within clusters gather and exploit knowledge using processes of transfer, accumulation, generation, and socialization.

The first section of the literature review examines the current theory of clustering, cluster formation, cluster decline, and challenges that impact on tourism clusters and the Key Success Factor (KSF) strategy. The second section examines the Triple Helix Model, University-Industry-Linkages (UILs) and explores the role of universities as participants in Thai tourism clusters. The third section considers how social networks trends impact on tourism, effective tourism clusters, and viable strategy including current research on tourism clusters. Then the conceptual framework was constructed; these three framework were selected because of their strengths (see table 2.5)

2.2. Theories on Clustering

2.2.1. Significance and Issue

Clustering as a business cluster development policy, was made fashionable by Porter (1990, 2008) following his works on “Competitive Advantage of Nation” and “On Competition”. Porter places much emphasis on innovation and economic growth but less on the social dimension, especially the loose linkages within a cluster that he did not analyze. As Porter (2008: 225) states:-

The productivity and prosperity of a location rest not on the industries in which its firms compete, but on how they compete. Firms can be more productive in any industry - shoes, agriculture, or semi-conductors - if they employ sophisticated methods, use advanced technology, and offer unique products and services.

Porter (2008; 225)

Porter (2008) mentioned, clusters in developing economies tend to be shallow and to rely primarily on foreign components, services, and technology to create innovation so that developing countries need FDI. Porter emphasizes creating unique innovative products by using advanced technology; as a result, he overlooks creative innovation to produce unique products and services by local raw material in emerging economy. This does not always use advance technology as in the US. Chittithaworn *et al* (2011) stated that In Thailand, SMEs account for a large proportion of the total establishments in the various sectors. In the manufacturing sector, for instance, SMEs comprise 93.8 per cent of all establishments. Moreover, of the total number of SMEs, small enterprises comprise 76.0 per cent, while medium companies account for 17.8 per cent of all manufacturing establishments. Meanwhile, it is estimated that 90 per cent of all manufacturing establishments were SMEs, employing some 868,000 workers or 38.9 per cent of the total. Previous studies dealing with the conditions of successful business have focused on large companies rather than SMEs.

SMEs are important in creating economic development within a country (Chittithaworn *et al*, 2011 and Mazzarol, Volery, Doss, and Thein, 1999). One of the important roles of SMEs in this context includes poverty alleviation through job creation. Thai SMEs are increasingly seen as creator of new jobs and Vietnamese SMEs employ 64 per cent of industrial workforce (Swierczek and Ha, 2003). SMEs in Thailand play an important role in the country's economic development. According to statistics provided by NSO (2007), SMEs accounted for 76.1 per cent of all establishments in the manufacturing sector in the year 2007. The largest concentration, by number, of SMEs in Thailand is in the food and beverage sector, textiles, wearing apparel, and wood and wood products (NSO, 2007). SMEs lack of resources such as capital so they cannot hire high skilled employees or professional. Also they do not have budget to invest in IT to make their firms' performance better. However, the public and private sectors and universities at local level can utilise their resources to support them to grow in a sustainable way by helping them to produce unique products and services. The university in particular can help to create innovation that adds value to products and services fostering economic activity and preserving local knowledge that will make local SMEs proud of themselves.

The following sections will examine different cluster definitions, and critically evaluate the role of clusters in fostering economic growth, the nature and character of clusters, cluster formation, cluster development, Why did the clusters decline?, challenges both in external internal Environment and Key Success Factors (KSF).

2.2.2. Definition of cluster

According to Porter (2008: 213-214) clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also cooperate. Also, he mentioned that the geographic scope of a cluster can range from a single city or state to a country or even a network of neighbouring countries. The terms 'cluster' refers to a local or regional concentration of industrial firms and their support infrastructure that are closely interrelated through traded and non-trading

interdependencies (Bathelt, 2005, 2008). Cristina *et al* (2010) concluding that clusters are important for competition since they increase productivity; they direct the path of innovation and stimulate the formation of new businesses. In addition, the geographical concentrations allow companies to operate with greater productivity in the search for inputs such as specialized labour and specialized machinery and component suppliers, aside from facilitating access to information and technology. An innovative cluster is defined as a large number of inter-related industries with a high degree of collaboration that operate in the same market with the same characteristics (Simmie J. and Sennett J, 1999). Lynch and Morrison (2007) claimed works' Rosenfeld (2001) and Nordin (2003), the distinguish networks from clusters (see table 2.1).

From the perspective of inter-firm networking, Hakansson's (1982) work on the importance of networking supply relations and Lamming (1993) on supply chains as conduits of value, are significant contributions to understanding supply relations (Kinder, 2003). In Callon (1980), Bijker and Law (1992), and Molina's (1993) approach to network analysis each stress the importance of networks for promoting innovation. So in this context, the terms 'cluster' refers to a local interconnected group and its supportive institutions such as the university and public sector in a local environment, where the interaction within a cluster contributed to enhanced levels of local specialization. Nevertheless, in order to respond to the unique demand of sophisticated tourists, and to create unique value, the focus should move from a broad to a niche market. In addition, Porter's (2003) work on Comparative Economic Performance: Selected Middle-and Lower-Income Economies shows that economic performance of Thailand is low (see figure 2.1).

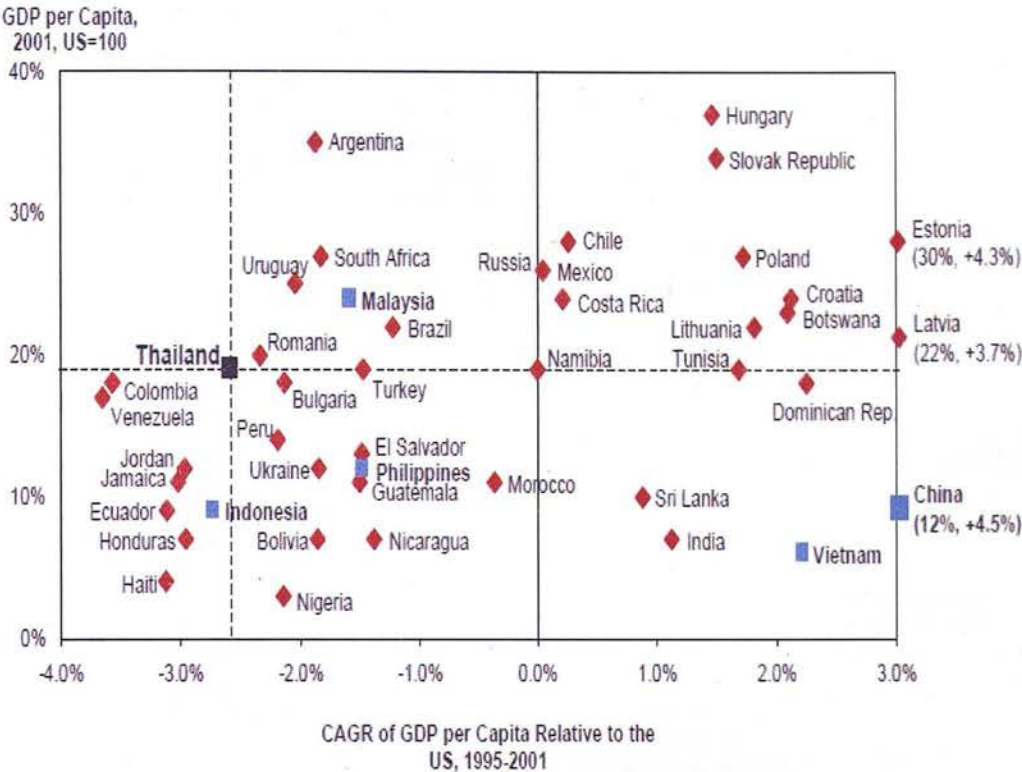


Figure 2.1 Comparative Economic Performance: Selected Middle-and Lower-Income Economies
Source: World Development Indicator (2002), Porter (2003)

As Brimble and Doner (2007) state, competition from countries with lower wages and/or stronger technological skills has been intensified by trade liberalization, such as newly created FTAs and the January 2005 expiration of the Agreement on Textiles and Clothing. They also mention that Thai firms must meet increasingly tougher requirements from multinational firms. Competitive pressures for quality, price, and delivery have elevated the opportunities for local concentrations of value chains within countries, such as Thailand but the ability to take advantage of these opportunities depends in no small part on the development of knowledge - centred capabilities that in turn can be enhanced through UILs (Brimble and Doner (2007)).

Feature	Cluster	Network	Lynch and Morrison's Commentary	Siriluk's Commentary
<i>Specialized</i>	Attract needed specialized services to a region	Allow firm to access specialized services at lower cost	Agree	Specialised products and services
<i>Membership</i>	open	Restricted	The reality of clusters is that there is no membership in a strict sense as it is an artificial construction open to all interested	Restricted
<i>Cohesion</i>	Based on social values that foster trust and encourage reciprocity	Based on Contractual agreement	Network descriptive feature ignores informal social networks. Cluster descriptive feature could equally be applied to successful networks	Based on leader, trust and mutual benefits
<i>Function</i>	Generate demand for more firms with similar values and related capabilities	Make it easier for firms to engage in complex production	Agree	Each function emphasised on quality
<i>Cooperation/ Competition</i>	Require both <i>Cooperation</i> and competition	Based on cooperation	Broadly agree	Based on cooperation
<i>Aims</i>	Have collective visions	Have common business goals	Networks require collective visions as well as goals. Difficult to see how a cluster can really have a collective vision given it is an artificial construction	Have common business goals

Table 2.1 Rosenfield's distinctions between a cluster and a network
Source: Adjusted from Rosenfeld (2001) and Lynch and Morrison (2007)

The cluster definition adopted for this paper is a geographical group of interconnected companies and associated institutions that link their flow of value e.g. knowledge transfer between university and industry.

Cunha and Cunha (2005) define a tourism cluster as a group of companies and institutions bound up to a tourism product or group of products. Such companies and institutions are spatially concentrated and have vertical (within the tourism productive chain) and horizontal relationships (involving factor, jurisdiction and information exchange between similar agents dealing with a tourism product offer). The relations between enterprises and institutions and a tourism cluster can be understood in two ways (Cunha & Cunha, 2005; Rosenfeld, 2001) as follow:

The first way is through horizontal relations. This is done through the creation of strategic alliances, where agreements can be of two kinds: on one side, the agreements between enterprises that have the same principal activity, i.e. among enterprises that deal with lodging, entertainment, transport and catering. On the other side, the agreements between enterprises working with the same group of customer satisfaction, but offering different product components to the customers (tourism service).

The second way is through vertical relations. This is done by the creation of strategic nets, where there is the establishment of a unilateral supplier customer relation among the partners in such a way that the object activities of the agreement are fulfilled by one of the parts, which gives its *output* to the other in exchange for a payment.

A recent study by Malakauskaite and Navickas (2010) defined a tourism sector cluster that can be described as a geographical concentration of tourism related companies, coordinating institutions, associated tourism organisations, and specialized providers of complementary services. A tourism cluster might embrace city, region, province, country or even a group of countries (macro-region).

So in this study, the term of ‘tourism cluster’ joins the concept of cluster by Porter (2008), Cunha and Cunha (2005), and Rosenfeld (2001). From Table 2.1 shows

Rosenfield's distinctions between a cluster and a network. In terms of cooperation and competition, he mentioned that cluster requires both cooperation and competition. However, in my point of view, the cluster require cooperation and they do not need to compete to each other, for example, the Pork Cluster in Nakon Ratchasema, entrepreneurs joined together to do many things such as when they join together as the cluster, this help the m to have more power to negotiate with suppliers so they buy raw material at low price. In addition, as a cluster, the public sectors and universities recognize them more and give more support, as a result, they produced differentiated pork products so they did not compete each other. The Pork Cluster in Nakon Ratchasema, is one of few successful clusters in Thailand. Therefore, I defined a 'tourism cluster' as a geographically interconnected group related to tourism activity and their supportive institutions such as the university and public sector in a local environment, where the interaction within cluster contributes to an enhanced level of local specialization including creating strategic alliances and controlling upstream and downstream.

2.2.3. Role of Clusters in Fostering Economic Development

Arguably, there are several sources of evidence that show clusters foster economic development. Starting from Porter (1998) who suggested that while it is essential that clusters form, where they form also matters. In developing economies, a large proportion of economic activity tends to concentrate around capital cities such as Bangkok and Bogota. That is usually because outlying areas lack infrastructure, institutions, and suppliers. The building of tourism clusters in developing economies can be a positive force in improving the outlying infrastructure and in dispersing economic activity. Whilst in the UK, the Department of DTI (1998) and Brown (2000) note that clusters are seen as an effective way of promoting regional local and national economic competitiveness across the UK. The work of Lade (2006) reveals that clusters have been used as a method for shaping economic development in many states and regions of the United States as well as in regions worldwide. Cunha and Cunha (2005) claimed in UNWTO (2004) that tourism is a sector that favours local

development because it generates jobs, increases the income of workers and stimulates capital investments through new business opportunities, which results in the establishment of new organisations, including SMEs, among other advantages.

From the perspective of tourism cluster development, clustering might be at its most effective in non-metropolitan environments when the activities of the co-located industries are based on visitation, in that an increase in the demand for travel enhances the need for the complementary growth of support industries that deliver visitors, and services as studied by Michael (2007b). In addition, he states that the result of the tourism-based cluster formations might add to the multipliers and externality effects, and serve to accelerate the opportunities for new forms of economic wealth by creating a demand for a host of complementary activities which in turn generate their own effect.

As in the case of the tourism community network in Sweden studied by Gibson and Lynch (2007), up until 2003, around €3.8 million had been invested in the different attractions to make them suitable as tourist facilities; e.g., converting old mines to visitors' centers and the provision of exhibition space.

The tenets of successful clustering, which seems to drive competitive advantage based on the co-operative and mutually supportive linkages among the cluster's industries, have only been tested in areas which are already regionally successful, such as Silicon Valley and Boston Massachusetts (Michael, 2008; Porter, 1998). Also, research conducted by Kenny (2008) mentions that in Silicon Valley, clusters have benefited from the dot-com boom, communication equipment and that employment grew from approximately 20,000 in the 1980s to more than 50,000 in the late 1990s. He also states that in 2000 the total valuation of about 370 Internet-related firms had reached US\$1.5 trillion.

For many years, the tourism sector regretted that the government and population in general, systematically ignored its economic and social importance. However, in recent years, these "complaints" have been corrected and governments have increasingly recognized the economic importance of tourism " (Cristina, *et al.*, 2010;

Crouch & Farrell, 2004). Today, tourism has proven to be a prodigious source of value creation and employment. Studies by Fernando and Long (2012), and Nordin (2003), state that tourism and travel, are important parts of the service economy and, according to United Nation World Tourism Organisation (UNWTO), are the world's largest industry. Moreover, it is predicted to be one of the few industries that will continue to generate job opportunities in future. However, tourism clustering particularly is under researched. The boundaries of the tourism and travel industry are fairly difficult to discern and therefore its extent is hard to measure - diversifying into many sectors such as restaurants, hotels, airlines, travel agents, shopping complexes etc.

Even so, it has attracted only little scholarly attention in the past towards a model for evaluating the impacts of tourism for local development (Cunha and Cunha, 2005). Fernando and Long (2012), and Ferreira and Estevao (2009), expressed the view that tourism is a powerful instrument at national and regional level, but discussions exploring tourism clustering are still in an embryonic phase.

As Michael and Hall (2007) argue, while the large-scale project may well be a grand gesture that politicians and lobbyists support by virtue that 'they are seen to be doing something' in a time of increasing competition between places (Malecki, 2004), it is more likely that unspectacular gradual change will be more economically and socially sustainable (Hall, 2007). They also stated that the micro-clusters model has applications beyond the broader clusters approach proposed by Porter (1990), which has proved useful in the analysis of the benefits from co-location in large-scale regions, but which has less relevance to the circumstances that apply in micro or local environments.

The evidence showed that clusters can foster the economy of the country as they generate huge revenue and jobs opportunities. However, if the cluster is the tool for increasing the competitiveness of the nation, the government should pay attention beyond the national level and big cities. Evidently, clusters are aggregated in the big cities and most are on a large scale. So the public sector ignores the local level such as villages because the public sector wants to see big impact as their achievement

rather than micro clusters at the local level of the small town or villages with the result that they don't see the significance to economic development and so do not pay attention to this local level. So if the cluster fosters economic development to what extent should the government be involved in clusters?

2.2.4. Role of government

There are several studies showing that the government can play an important and positive role in relation to clusters. For example, the SRC/ERC, RRC, Industrial Technology Foundation Building project, TIC, Technopark and Industry-Academia Cooperation Agency of Universities has encouraged the Kyungpook National University to play an active role in the development of its city's economy. Porter (2008) stated that basic role of the government in relation to clusters is to facilitate cluster development and upgrading. Iordache *et al* (2010) argued that macroeconomic policy needs to focus on tourism development actions initiated by government, but also on cooperation between regions or countries which include tourism among their economic priorities in order to achieve common goals by focusing their efforts and resources. They also stated that interest or lack of interest shown by public authorities to sustainable economic growth can be revealed to a certain extent by its tourism policy and its effects in the short-term on the contribution to the economic development of the country or region, or in the long-term – on strengthening the economy before economic crisis and in the more competitive global market economy and improving the country's image in the international community. However as Wirudchawong (2012) has argued in connection with the philosophy of Community-Based Tourism, which is under the main traditional tourism industry, we cannot expect much by way of financial support. Community-Based tourism needs a strong commitment from the government sector and recognition that it can be a tool for improving human resources, quality of life, conserving culture and the environment.

Previous studies above showed the role of the government in relation to clusters. However, in case of Thai clusters, problems were identified and strategic plans were formulated, the solutions are elusive. Cluster initiatives are one mechanism that

many governments want to use to increase competitiveness of the country. USAID and the Thai government established Thailand Competitiveness Initiative (TCI) in order to recover from the Asian Financial Crisis.

2.2.5. Cluster formation

Clusters can arise in many ways from government policy or from the private sector. As Porter (2008) mentioned, one prominent motivation for the formation of early companies is the availability of pools of factors, such as specialized skills, university research expertise, an efficient physical location, or particularly good or appropriate infrastructure. He also mentioned that clusters may also arise from unusual, sophisticated, or stringent local demand such as in Israel and Finland. In addition, high-tech cluster formation has been associated with Stanford, the universities in North Carolina, in Boston and in Cambridge, United Kingdom, following heavy investment in science park facilities by the university, private developers and local governments. However, in all these instances, several other factors contributed to the growth of the cluster: large Multinational Corporation (MNC), defense spending, academic entrepreneurs, urban developers, financiers, and others (Hershberg *et al.*, 2007). Thus the birth of clusters can be top-down or bottom-up, leading to different characters of clusters such as natural, cultural or IT clusters.

2.2.6 The Nature and Character of Clusters

Tourism research is multidisciplinary dealing with the production of its related services, the location of its places, the psychology and choices of its consumers, the marketing of its products, the management and administration of its businesses, the planning for its infrastructure, and in terms of the policy implications that tourism creates for the communities and regions where it occurs (Michael, 2008). Michael also states that one of the problems confronting the tourism researcher is how to constitute tourism as a separable form of human behaviour; this has proved difficult to contain and define. As Kinder and Molina (2003) point out a cluster is a synthetic concept requiring wider dimensions, that is, analysis from various dimensions (spatiality, relationship, knowledge, and network).

This study argues that a cluster has several dimensions. In order to define the notion of cluster, economic and social terms have been used. The clusters may take the form of industrial parks, small towns or major cities. Most countries generally exhibit a size and activity distribution of cities (Gabaix, 1999a, 1999b), with different ranges of activities taking place in different centres (McCann, 2008). On the other hand, the cluster can be a small group in a village linking with the public sector and university.

The clusters based on Porter's approach, are broad and inclusive without emphasizing any particular industries or areas. For example, he states:

While we can identify national characteristics that apply to many industries, my experience has been that these are overshadowed in actual competition by particular and often industry-specific circumstances, choices, and outcomes.

(Porter, 1990)

In terms of Thailand's competitiveness, Porter's (2003) analysis is that growth after the Asian crisis was driven by devaluation. Even though Thailand has not been able to increase the revenue per tourist since tourists reduced their spending in terms of the US-dollar, he argues that Thailand's labour productivity is far behind leading Asian economies and productivity growth is lagging badly (Porter, 2003). As Porter explained in figure 2.2 Thailand's advantages derive from beautiful natural resources, but the country is disadvantaged by its low skill labour. If the private and public sectors in relation to tourism activities and the university work closely to identify gaps and formulate short and long term plans in tourism human resources planning, this weakness should be improved and be better prepared for influential external factors such as Socio-technological factor and ASEAN Economic Community (AEC). Therefore, Thailand cannot rely solely on natural resources anymore and must prepare for the challenges ahead. Thailand cannot compete with mass products and with cheap labour. A small developing country like Thailand must bring local knowledge with help from universities to develop unique products and services through innovation. An added-value is that each area has its own unique charming stories

National Business Environment

Overview Thailand's Relative Strengths and Weaknesses

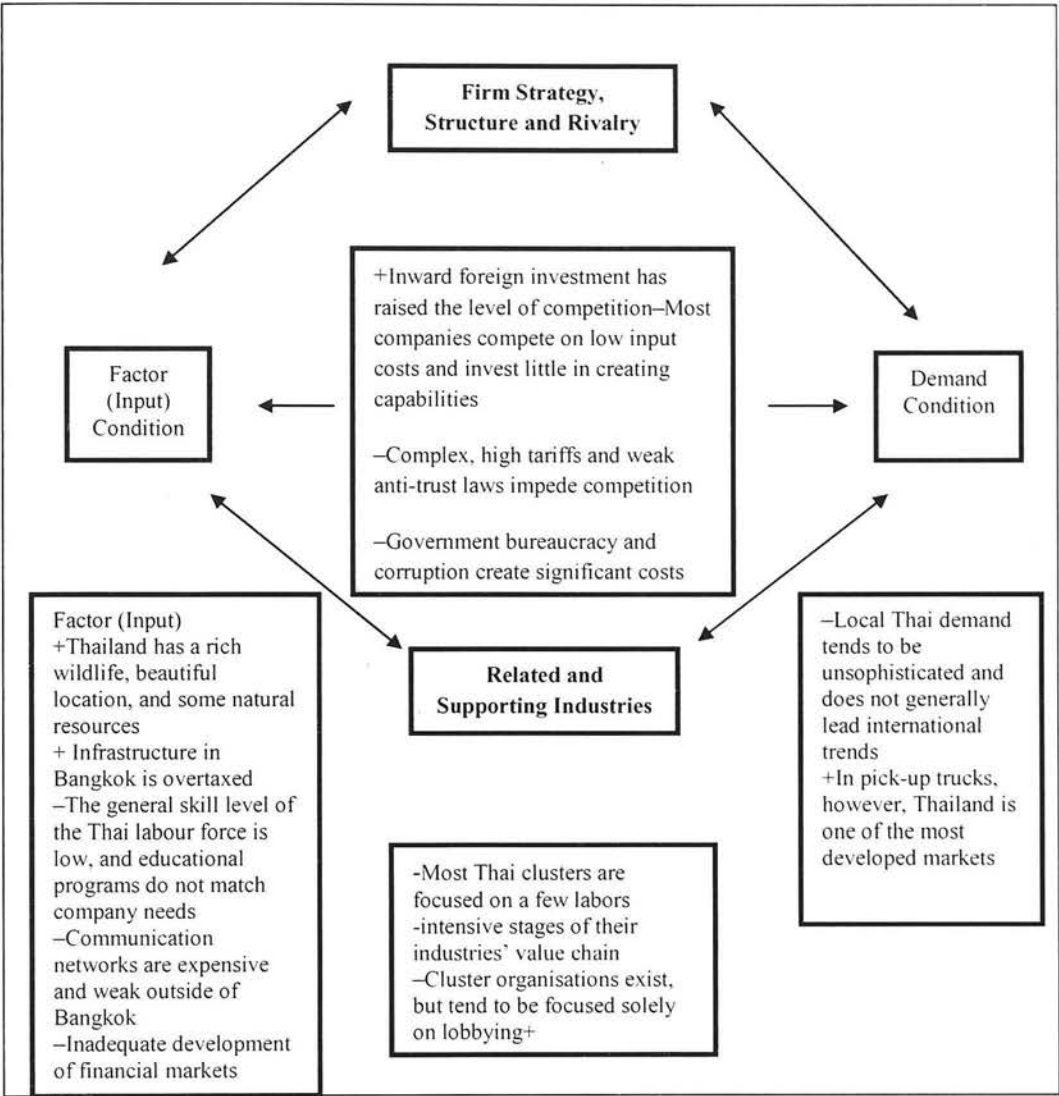


Figure 2.2 Diamond model
Source: Porter, 2003

2.2.7 Challenges

The challenges referred to in this study come from the external environments that make organisations related to tourism adjust their own organisation to be able compete.

2.2.7.1 External Environment

There are several external environments that have affected tourism such as socio-technology, the world economic crisis, global tourism trends such as going green, wellbeing and oriental food, the world economic crisis, natural disasters, ASEAN Economic Community (AEC).

a) Socio-technological factor

Over the last few decades, Information Communication Technologies (ICTs) have dramatically changed people's everyday life such as the way people work, live or connect to society. The Computer Industry Almanac estimates that nearly 625 million people or 6.7 per cent of the global population had Internet access worldwide in June 2001 (Buhalis, 2003). The question might be raised as to what is the relationship between the percentage of internet users and the number of tourists. It is evident from the work of Buhalis (2003) that most (86 per cent) on-line adults claimed to be travellers and most on-line leisure travel planners claim that they plan their trips on the Internet. In addition, PricewaterhouseCoopers (2009) state that the number of internet users in Asia increased by 14 per cent from 2007 to 2008, representing the largest increase of any region in the world. Within the region, India has highest rate of adoption, where the growth was 27 per cent. Interestingly, the number has been increasing significantly in developing countries, especially new destinations such as China which United Nation World Tourism Organization (UNWTO) forecast will be the top destination in 2020 (Dwyer *et al.*, 2008).

In terms of the impact of ICT on the tourism industry, there are several forces that drive the tourism industry using ICTs: the first one is the external environment e.g. globalisation which drives competition. In order to survive and grow, an entrepreneur has to find ways of managing its organisation effectively and efficiently. To do so, it needs new advanced technology instead of using the traditional ways of dealing with environmental change. Importantly, new advanced technology can assist entrepreneurs make better decisions since they have to face difficulties in environmental uncertainty. Next is the sophisticated customer. Since tourists

nowadays are young and well educated, they have special needs to which entrepreneurs have to respond quickly and individually. Then, to deal with competitors, ICTs can assist an organisation to improve productivity and reduce costs. For example, using the Internet instead of traditional ways such as telephone calls to connect with customers can help organisations respond to customers immediately when customers have problems. Since ICTs respond to both customers and entrepreneurs effectively, this has resulted in dramatically increased supply and demand.

b) Demand-driven Tourism

The number of people travelling across the world has increased dramatically, due to reasons such as work affluence, personal lifestyle, and low cost airlines. These tourists may be well educated and familiar with technologies; they have diverse lifestyles and different needs. Thus, wherever they travel they need to connect to their social networks via the Internet. These Internet users enjoy their lifestyles and do many things via the Internet such as buying books, music, making reservations, renting cars online, and buying air tickets.

It was predicted that European on-line shopping will grow by 2742.5 per cent from 678 million Euros in 1998 to 18.6 billion Euros in 2003 (Buhalis, 2003: 118). In addition, the OECD's 2008 statistics (Seoul Finance Internet News, 2009), Korea was ranked number one in terms of the percentage of homes with Internet access, at 80.6 per cent of the total population (Kim et al, 2011). The survey also reported that two-thirds of Koreans with access to the Internet at home are online shoppers (Kim et al, 2011). Many tourism companies now actively use Internet sites as a key marketing and sales vehicle for their products and services. To be successful, tourism e-commerce services must be trustworthy (Kim et al, 2011). Increasingly, Internet users who shop online are likely to travel; they have high expectations from entrepreneurs to respond to their specific needs. If entrepreneurs fail to meet the specific needs of their customers, ultimately, they will lose those customers and have to close their businesses. In addition, entrepreneurs cannot deceive sophisticated customers since customers always check the information before make a decision. For

instance, if a hotel owner shows hotel pictures that differ from the real one, when customers find out, they will post this information on the Internet. Word of mouth in social networking on the Internet is very powerful. As a result, entrepreneurs cannot afford to deceive. The only way forward for them is to upgrade to meet the needs of customers who now have very different requirements. Tourists in the digital generation are not only interested in sand sea and sun, as in the past, but are also interested in learning about local culture and taking care of the environment. Since tourists have different needs, entrepreneurs need to adjust by responding to specific needs so as to generate a niche quality market. In short, in a knowledge-based society, the Internet empowers its users to become sophisticated tourists who are affecting the ways entrepreneurs have done business for decades. Thus, if entrepreneurs have a vision and realize these opportunities, they will achieve their goals.

The question is how to create the unique products or services that meet the unique customers (niche market) Segmentation is the important thing that tourism clusters should target who are their real customers? How can Thai tourism clusters respond to customers' needs? Do they have the capacity to do so? Do the government or universities support tourism clusters attempting to reach their target groups or goals with limited resources? Importantly, entrepreneurs should be aware of high competitiveness and must adjust themselves.

c) Supply-driven Tourism

Due to globalisation, highly increased competition, and responding to sophisticated customers, entrepreneurs need to use ICTs for many purposes. Then they must manage all the functions of their organisation effectively and efficiently; improve the quality of their products/services; create new products and services, and communicate with stakeholders effectively. To meet these demands, large firms can invest in new technologies since they have sound finance. On the other hand, Small and Medium Tourism Enterprises (SMTEs) are reluctant to adopt new advanced technologies since they lack resources such as money and technical expertise. Nevertheless, ICTs can be both opportunities and threats to SMTEs. There are a

number of SMTEs that adopt new advanced technologies and improve their competitiveness. It is estimated that more than 90 per cent of hotels are Small Medium Tourism Enterprises (SMTEs) and are family-managed (Buhalis, 2003; Di Gregorio and Shane, 2003; Shaw and Williams, 1990; Sheldon, 1993).

Braun and Hollick's work (2006) in the sharing of tourism knowledge online shows that the project can raise industry standards and move away from ineffective silo approaches to industry training and capacity. One example is the Ayrshire network studied by Lynch and Morison (2007) which shows that the success of its network comes from several factors such as the e-business portal and the Scottish Enterprise Tourism Innovation Toolkit. However these two enterprises could not have become successful without support at the local and national level.

In short, due to strong competition within the tourism industry, ICTs have increasingly played an important part in the strategic management of organisations. Inevitably, to compete globally, entrepreneurs ought to take advantage of the new advanced technologies; but entrepreneurs alone cannot achieve their goals due to a lack of resources. Thus, networks or clusters with support at the local/ regional and national levels should be one of the possible alternatives for an entrepreneur. How can challenges affect the performance of the cluster? Porter (2008) emphasised that the limited explanatory role of chance raises serious doubts about whether clusters can be seeded in locations where no important advantages already exist. How about small groups in villages and whether they can develop into a cluster and grow even though they do not have any important advantages. Can the university and public sector support them to grow sustainably as they are the grassroots of the country?

2.2.8 Cluster development

There is no guarantee that the cluster will develop; once the process gets started it is like a chain reaction in which the lines of causality quickly become blurred. (Porter, 2008: 256). He also emphasized that the process depends heavily on the efficacy of the 'Diamond's' arrows or feedback loops, on how well, for example, local educational, regulatory, and other institutions respond to the cluster's needs, or how rapidly capable suppliers respond to the cluster opportunity. Furthermore, he

highlighted that three particular areas deserve special attention: intensity of local competition, the location's overall environment for new business formation, and the efficacy of formal and informal mechanisms for bringing cluster participants together (Porter, 2008: 256). This is not always the case in terms of intensity of local competition if the cluster has unique products and services that differentiate it from others which cannot find substitute products or services. Still the clusters need other institutions to support them.

Competitive advantage in tourism is no longer from natural resources, but is increasingly man-made, driven by information technology and innovation. As such it is not simply the stock of natural resources that will determine its share in the tourism market, but how the resources are managed and integrated with other competencies to create the competitive advantage for that destination. Hence it is worth questioning “why are many destinations in developing countries that are characterized by an abundance of resources and cost advantages, are not able to create wealth and prosperity in tourism?” (Fernando and Long, 2012).

In a national or global economy, cluster development can be greatly accelerated by attracting cluster participants from other states or nations. A growing cluster begins to attract in-bound foreign direct investment (FDI) in the form of manufacturing or service operations and supplier facilities (Porter, 2008). However, to gain real competitive advantage, the cluster should develop reliance internally and not from FDI. Evidently when the financial crisis happened, foreign investment flowed out of the country – this means that any tourism cluster should pay close attention to building its own competency to survive and grow in a sustainable way. Otherwise when foreign investment flows out, the cluster will decline.

2.2.9 Why did the cluster decline?

The causes of cluster atrophy and decline can also be found in the elements of the ‘Diamond’. They can be grouped into two broad categories: endogenous, or deriving from the location itself, and exogenous, or due to developments or discontinuities in the external environment (Porter, 2008: 259). He points out, based on numerous studies, that internal sources of decline stem from internal rigidities that diminish

productivity and innovation. It appears that clusters require a decade or more to develop depth and to gain real competitive advantage - one reason why government attempts to create clusters normally fail.

External threats to cluster success arise in several areas. Technological discontinuities are perhaps the most significant because they neutralize many cluster advantages simultaneously. Market information, employee skills, scientific and technical expertise, and supplier bases may be rendered inappropriate. Unless the requisite new technologies and skills are available from other local institutions or can be rapidly developed, competitive advantage will shift to another location (Porter, 2008: 260). Boja (2011) mentioned that decline and possible dissolution of clusters is generated by relocating to better cost-effective regions of large companies representing the cluster core, by technology changes or by economic events that have major effects such as wars or crises.

Technology may be important but it is not the most significant in terms of tourism. Technology can help entrepreneurs within clusters do their business efficiently and link participants within and outside clusters. However, if technology is good but with poor service, the cluster definitely cannot survive.

A shift in buyer needs, creating a divergence between local needs and needs elsewhere, constitutes another external threat to cluster productivity and innovation (Porter, 2008: 260). Why do some clusters arise and grow whilst others decline? What are the key significant factors that make clusters a success?

2.2.10 Key Success Factors (KSF)

There are three critical success factors (see Fig. 2.3) that underpin cluster success: networks and partnerships, strong skills base and innovation and R&D capacity (DTI, n.d.). Gibson and Lynch (2007) claim that significant factors such as benefits, communication, leadership that have been attributed to the success of tourism networks have been identified by Morrison, Lynch, and John (2004), drawing on the work of Augustyn and Knowles (2000), Littlejohn, Foley, and Lennon (1996) and

Morrison (1994, 1996). Also, the study emphasizes that trust is very important in all the networks and clusters (Liyanage, 1995). As Porter (2008: 215) states, clusters are the driving force in increasing exports and magnets for attracting foreign investment. A study by Mongkhonvanit (2008) shows that to maintain their exploitation of resources and low skilled/low-cost labour, multinational corporations do not transfer technology and skill to their host countries. Thus, it is impossible for underdeveloped and developing countries to be equal partners and to become competitively developed.

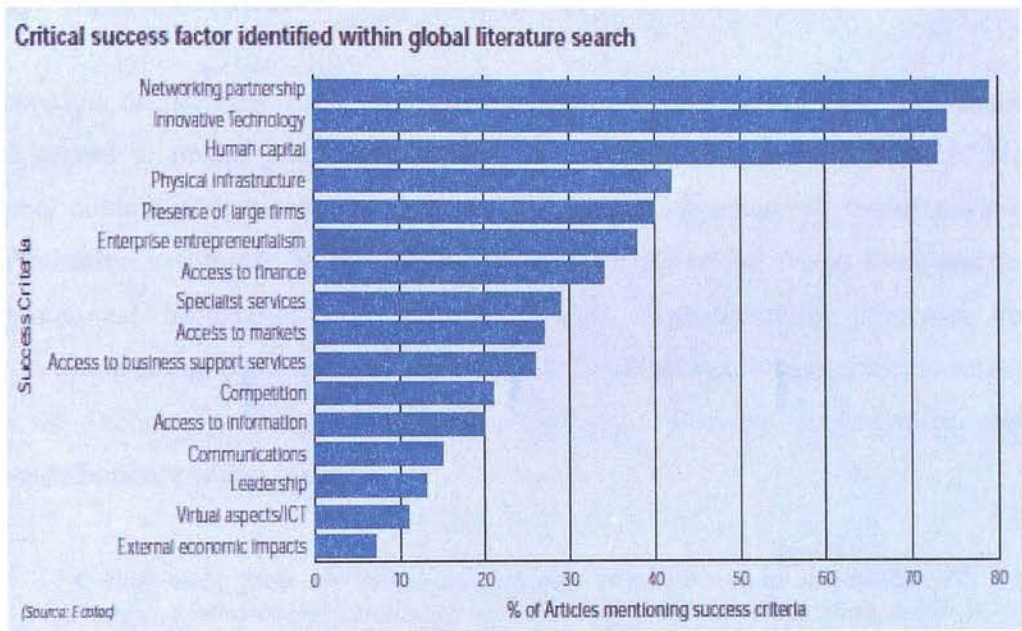


Figure 2.3 Critical success factor identified within global literature search

Source: DTI, n.d.

It can be argued that slower, organic growth by indigenous clusters is preferable at this stage in Thailand’s development, since foreign capital has proven fickle and volatile: in Thailand’s case foreign investors too readily withdraw for short-term reasons which interrupt the learning and development processes in tourism clusters.

2.3 Triple Helix Model

This section analyzes the framework of the Triple Helix, in order to explain the significance of UILs. It covers the Triple helix model in various countries, University-Industry Linkages (UILs), the role of the university in a Knowledge-based Economy, the role of the university in developed countries, the role of university in developing countries, UILs in developed countries, UILs in developing countries, UILs in Thailand, barriers to UILs and Thai tourism clusters and effective UILs and Thai tourism.

2.3.1 Triple Helix model

According on Brennan, 2004, a combination of economic and political liberalisation has served to induce changes in the higher education landscape worldwide. The global context is dominated by free market ideas and international trends towards privatisation, reinforced by the influential advisory role of the World Bank and the International Monetary Fund (Brennan, 2004). Transformation processes are everywhere taking place against this backdrop. South Africa, for instance, embarked on an economic strategy in 1996 (labelled “Growth, Employment and Redistribution”) widely seen as:

“A shift away from the Keynesian/welfarist emphasis to a neo-liberal strategy of privatisation, ending government subsidies and a reduction in the fiscal deficits through cuts in public spending, including increased introduction of user fees to subsidise public provision”. (Harber, 2003: 13)

One fundamental characteristic of the liberalisation of higher education is the diversification that resulted from the decentralisation of public institutions and the emergence of private providers. In most countries, traditional public universities failed to meet the new demands that resulted from universal primary and secondary education schemes and from the restructuring of the economy (Brennan, 2004). Diversification through the development of post-secondary vocational institutes was therefore seen by governments as a way of increasing access to higher education without compromising the standards of major state universities. Diversification

through the encouragement of a growing private sector of higher education was meant to shift the burden of educational costs from the state to the private sector and the families of students (Brennan, 2004).

The triple helix becomes manifest in the establishment of technology transfer departments at universities, the creation of incubators for technology-based enterprises, and the establishment of science parks. Etzkowitz (2003) argues that innovation is increasingly based upon a "Triple Helix" of university-industry-government interactions. The increased importance of knowledge and the role of the university in the incubation of technology-based firms have given it a more prominent place in the institutional firmament. The entrepreneurial university takes a proactive stance in putting knowledge to use and in broadening the input into the creation of academic knowledge. Thus it operates according to an interactive rather than a linear model of innovation. As firms raise their technological level, they move closer to an academic model, engaging in higher levels of training and in sharing of knowledge. Government acts as a public entrepreneur and venture capitalist in addition to its traditional regulatory role in setting the rules of the game. Moving beyond product development, innovation then becomes an endogenous process of "taking the role of the other", encouraging hybridization among the institutional spheres.

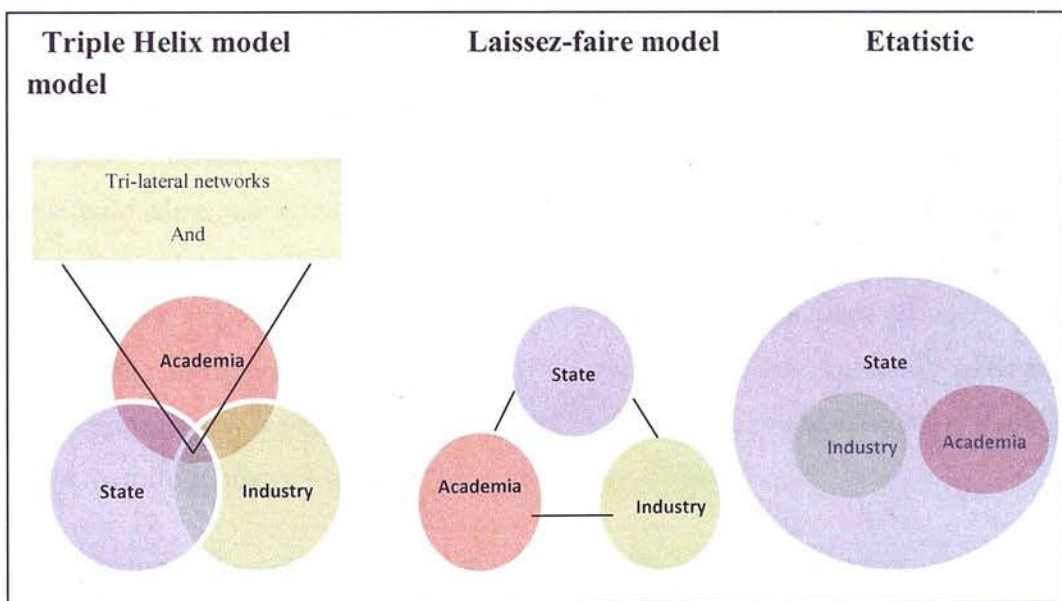


Figure 2.4 From triple helix model etatistic
Source: Etzkowitz (2002).

According to the Triple Helix framework, increased interactions are associated with transformation within the internal culture and norms of universities (Edqvist, 1997; Etzkowitz and Leydesdorff, 2000; Leydesdorff, 1997; Lundvall, 1988; Mongkonvanit, 2008; Mowery and Sampat, 2004; Nelson, 1993; Nowotny, 2001)

In the third model in Figure 2.4 labelled as Etatistic model, the nation state encompasses academia and industry, for example, the former Soviet Union, and some European and Latin American countries, in a previous era when state-owned industries were predominant.

The second model in Figure 2.4 labelled as Laissez-faire model. Etzkowitz (2000) argues that in a knowledge-based economy, the university becomes a key element of the innovation system both as human capital provider and seedbed for new firms. There is a similar transformation in the mission of economic and social development. Instead of a focus on an individual patent or technology transfer, there is a concern with the university playing a broader role in its region. Sometimes, as in Portugal, where regional political entities are weak, the university plays the role of regional innovation organizer (RIO) bringing together local businesses and municipalities to develop an innovation strategy.

The first model in Figure 2.4 labelled as Triple helix model is the creation of trilateral linkages, networks, and organisations among the three helices, serving to institutionalize and reproduce interface as well as stimulate organisational creativity and regional cohesiveness. For example, groups such as the Knowledge Circle in Amsterdam, the New York Academy of Sciences and Joint Venture Silicon Valley encourage interaction among members of the three spheres, leading to new ideas and joint projects that might not otherwise have emerged from interaction within a single sphere or from bilateral relations (Etzkowitz, et al., 2000).

For Thailand, the public universities are under the government whereas industry is independent from the government. The government allocates budgets through the

Budget Department. In 2002 the announcement of the Minister of University Affairs on System, Criteria, and Internal Quality Assurance System in Higher Education Institutions, 2002 was issued to serve as the operational guideline (SEAMED RIHED & OHEC, 2010).

In addition, in terms of the mission statement of universities in Thailand, it is stated policy both in private and public universities that besides producing graduates and doing research, the universities have to provide academic services to communities. Even Etzkowitz realizes the increasing importance of the university, but as an entrepreneurial university not in terms of academic service: he overlooks the mission of universities in countries such as Thailand. In summary, my argument is that local universities under the government were assigned in Quality Assurance (QA) to support local communities by helping tourism clusters at local levels to grow in a sustainable way. However if the universities turn into entrepreneurial universities as in the US, they will be eager to meet only big companies who can provide funds to the university. Consequently it is the academic service function, especially for developing countries, that is missed by this model. In addition Etzkowitz mentioned only science and technology policy. Actually, besides technology, universities can help in other areas such as innovation by creating new products and services for a niche market.

2.3.2 Triple helix model in various countries

Etzkowitz (2002) analyses the university business incubator in the context of a triple helix of university-industry-government. He concludes that incubation is an exemplar of the triple helix model of university-industry-government relations. From divergent starting points in different parts of the world, there is a movement towards university-industry-government networks aimed at the incubation of new enterprises. This model, (which had at its core the university as a source of new technologies and firms), had its origins at MIT (Massachusetts Institute of Technology) and Stanford at the early 20th century.

Since the introduction of the incubator concept in the mid-1980s, incubators have developed rapidly in Brazil, gaining support from universities, government at

federal, state and local levels and industry associations. In order to create jobs, the Graduate School of Engineering of the Federal University of Rio de Janeiro formed people's cooperatives. The university invited low-income people from the slums for training, shaping them into a group cooperative to perform services and then sending them out into the world as an organisation. These popular cooperative incubators were seen as successful and were extended through a national program to other parts of Brazil.

The extra-networked incubator, typified in the University of Albany model brings together heterogeneous elements from various sources to create new hybrid organisations. The University at Albany in the US lacked a sufficient research base to systematically develop new technology firms, the traditional incubator function. To generate critical mass, the university invited local high-tech start-ups, R&D units of larger firms, laboratories from the state government and research groups from the university into the incubator. The objective was to attract funds from the state and federal governments to develop new research centres.

Etzkowitz (2002) concludes that as the academic entrepreneurial paradigm takes hold, interface capabilities spread throughout the university. Within academic departments and centres, faculty members and other technical personnel may be assigned special responsibility to assess the commercial salience of research findings and encourage interaction with external partners. For example, a faculty member in the Columbia University Medical School divides her time between traditional academic and technology transfer responsibilities. The success of incubation will ultimately be seen in the disappearance of the incubator as a separate entity in a remote or off-campus site. The university will play a more prominent role in society, through exchanging functions with industry and government, and by creating the pre-conditions for regional economic and social development. The structure of the triple helix depicts the university as a regional innovation organizer.

Other studies by Leydesdorff and Meyer (2003) focused on interconnections between the university, industry and government, whereby industries have to assess in what way and to what extent they decide to internalize R&D functions.

Universities position themselves in markets, both regionally and globally. Governments make informed trade-offs between investments in industrial policies, S&T policies, and/or delicate and balanced interventions at the structural level. They conclude that such policies can be expected to be successful insofar as one can anticipate and/or follow trends. Etzkowitz (2008) argues that cooperation between government, industrial, and academic actors can extend innovation into a new mode of production within a region, across a national innovation system. For example, Italy's industrial districts of low-tech firms are increasingly outmoded. They need closer ties to knowledge producing organisations to innovate, and its mid-tech firms are in decline. Under these conditions, the university's potential as an engine of renewal for existing firms, and a source of new knowledge-based firms, moves onto the global economic, academic, and innovation agenda.

Leydesdorff and Meyer (2003) reflected interaction among three entities very broadly and only in the R&D function. They addressed policy but as discuss earlier, policy alone cannot succeed without action/implementation. In addition, in terms of the university, there are varieties of universities. For example, in Thailand public universities depend on government policy and the university plan must be consistent with the national plan otherwise they will not obtain the budget. Whereas private universities have more choices and can adjust themselves to suit the circumstance so they can position themselves more easily to meet the market. Therefore the question arises as to how the universities position themselves in the market and, in the future, what is the most important role of the universities if they turn into entrepreneurial universities? Additionally, should all public universities become entrepreneurial as in the US and Singapore?

Overall, most previous theories addressed particular aspects of entrepreneurial universities. However, if the university shifts to being an entrepreneurial university, some academics feel uncomfortable because they fear interference in their teaching and research roles. So the university has to find a balance within its own mission. In addition, the university plays a socio-economic role as part of social development and serving society.

2.3.3 University-Industry Linkages (UILs)

University-Industry Linkages (UILs) in this study refer to the relationship between the university and industry with the aim of increasing performance and effectiveness of tourism clusters.

2.3.3.1 Role of Universities

This section provides a picture of the different roles of universities between developed and developing countries and what these factors mean to the nation. In the knowledge-based economy, knowledge has become the most important asset of an organisation. At the same time, globalisation has affected organisations all around the world. Consequently, organisations must find new ways, such as new products or innovation, to survive and prosper. Whereas the university is the source of knowledge, it can respond to the needs of the organisations to assist them to survive by utilizing university knowledge. In the past this function was not as important as its core function. However, recently, the knowledge exploitation mission has been increasing dramatically.

Resulting from the work of Molas-Gallart (2002), many governments around the world now feel that the role of universities in the emerging knowledge economy is of growing significance. The triple helix model suggests that universities perform a driving role in identifying strengths and weaknesses in a regional innovation environment and leading, or co-leading, the development of innovation strategies based on knowledge capitalization and other capital formation projects (Etzkowitz, 2002, 2002b; Wever and Stam, 1999)

In recent years there has been discussion about whether universities can encompass a third mission of economic development, in addition to research and teaching (Etzkowitz and Leydesdorff, 2000; Leydesdorff and Meyer, 2003; Piergiovanni and Santarelli, 2001). They defined the third stream as activities mainly concerned with the generation, use, application and exploitation of knowledge and other university capabilities outside academic environments. Gunasekara (2006) explores the role of universities regarding regional innovation systems. My argument is that political

and economic conditions in a region influence the role that a university performs in regional agglomeration. For example, buoyant economic conditions prevailing in a region influence the demand for university-industry linkages because these conditions tend to attract industry partners that are exploring new ventures (Piergiovanni and Santarelli, 2001; Wever and Stam, 1999). My perspective is therefore one of bottom-up development that recognises the situated role of universities in developing economies.

2.3.3.2 Role of the university in developed countries

The formation of industrial consulting and scientific instrumentation firms by scientists also took place in the late nineteenth century at Harvard and MIT but were anomalies at the time (Etzkowitz, 1998). In the study of the dynamic and growing cluster of ICT firms in Waterloo, Canada, the University of Waterloo clearly emerge as a strong example of an entrepreneurial research university which plays a key role in the local economy. In the USA, universities are gradually extending their activities deeper into the technology transfer process (Etzkowitz, *et al.*, 2000). Furthermore, his study of MIT highlights the importance of the science-based research strengths of that university as a key explanation of its role in the development of the regional system (Etzkowitz, 2002).

Several studies highlight the role of universities in developed countries. For example, Jacob *et al.* (2003) focused on universities in developed countries as knowledge producers and transfer agents that play a larger role in industrial innovation as providers of human capital and as the seed from which new firms grow. According by Mowery and Sampat (2005), in many countries, national governments have provided support for technology transfer initiatives via legislation to facilitate technological diffusion from universities to firms (e.g., the Bayh-Dole Act of 1980 and collaborative research e.g., the National Cooperative Research Act of 1984); have provided subsidies for research joint ventures involving universities and firms (e.g. the European Union's Framework Programs and the U.S. Commerce Department's Advanced Technology Program and have shared use of expertise and laboratory facilities. Mowery *et al.* (2004); Siegel (2006); Rothaermel *et al* (2007)

reflected that in many developed countries, universities have become increasingly entrepreneurial, whereas in the UK, central government has reduced university research funding and demanded that universities seek alternative sources of funding; as a result, the universities have had to undertake activities that attract industrial funding or find innovative ways to generate income (Virasa, 2011).

In addition, in Continental Europe and Latin America, where many universities are state-controlled, there has been a gradual shift towards an increased autonomy of the university from the state and closer engagement with industry (Virasa, 2011).

Since the governments in developed countries have reduced grant research funding for universities they have consequently had to work closely with the private sector, especially big companies. This circumstance also tends to occur in developing countries.

2.3.3.3 Role of the University in Developing Countries

According to Liefner and Schiller (2008), education is the most basic requirement of any technological upgrading (see also Hobday, 2000:156; Lall, 2000:41–46). Tertiary education, in contrast to primary and secondary education, becomes important as soon as firms move beyond the stage of carrying out low-wage production functions and start producing more sophisticated products or using technology-intensive processes. Especially, this is so, as Lall (2000:27) and Wong (1997:201) argue, when firms start setting up in-house R&D they need university-trained employees. The study by Brimble and Doner (2007), universities in Thailand are shifting towards an increased autonomy from the government and a closer engagement with industry. In a developing country like Thailand which still relies on natural resources and low labour, entrepreneurs need to move beyond these points to create their own unique products or services in order to survive. However, entrepreneurs in Thailand have not paid attention to innovation. They are likely to concentrate on how to minimize cost even when the labour cost increases; obviously from the textile-garment industry, entrepreneurs tend to hire immigrants from neighbouring countries such as Laos, Vietnam, and Burma. However, this option can

no longer compete with a country like China. The only way for a firm to compete is to upgrade its level by joining a cluster, since an entrepreneur realizes how risky its business is due to limited resources. Even the cluster still has limited capabilities. That is where the universities come to play an important role for clusters in helping them to improve productivity and create unique products or services. Bell and Pavitt (1997:116), though focusing upon technology accumulation, see universities only as part of the infrastructure surrounding companies, contributing primarily to the factor personnel qualifications (see also Gereffi, 1995:82). This may have something to do with severe shortcomings that usually hinder universities in developing countries from fulfilling their functions successfully (see below; Liu and Jiang, 2001:182). Recently, however, both political and academic interest in the role of universities in developing countries has risen. The World Bank devoted its 1998/1999 report to knowledge development, and the main topic of the 2005 UNIDO Industrial Development Report is the role of knowledge systems for *capability building for catching-up*, which further emphasises the extension of the role of universities in technological upgrading of developing countries.

2.3.3.4. University-Industry Linkages in Developed Countries

Many countries are seeking to strengthen global economic competitiveness by building knowledge economy capability. A popular approach is supporting university–industry knowledge exchange linkages. Acworth's (2008) paper examines the formation of the Knowledge Integration Community (KIC) model at the Cambridge-MIT Institute. The paper shows how a model developed by the Cambridge-MIT Institute (CMI) for the UK offers a more effective approach to knowledge sharing and presents the results from one of the first projects launched by CMI. He then looked at the background literature and relevant government policy, benchmarked peer grant-making organisations, studied the Massachusetts Institute of Technology and Cambridge University institutions, and organized expert consultation through a strategic planning process which included 27 stakeholder groups. The paper by Acworth (2008) shows how a model developed by the Cambridge-MIT Institute (CMI) for the UK offers a more effective approach to knowledge sharing, and presents the results from the Silent Aircraft KIC

(Knowledge Integration Community), the case study of the first projects launched by CMI. While there are a number of factors influencing the success of technology transfer from universities, intermediary functions are cited as having an important role - in particular the role of intermediaries in facilitating links between universities and the potential users of knowledge, notably, commercial firms (Howells, 2006).

In the CMI-KIC case, Acworth (2008) identifies the key intermediary elements as follows: 1) scale; the larger and more established the university in terms of experience, staff, finances and research funding, the greater the likely number of spin-outs (O'Shea, 2005). Other studies add venture capital (Di Gregorio & Shane, 2003; Wright, Lockett, Clarysse, and Binks, 2006); 2) and the social factors – non-hierarchical social structures, breakaway teams - as well as financial frameworks-patent-management strategies, financing, stock option ownership (Lecuyer, 2006); 3) and the innovation partnerships that can boost research collaboration between universities and businesses (Roberts, 2002).

In the context of developed countries, the UILs activities are practical for example at the Toyohashi University of Technology (TUT) sponsored by the Minister of Education, Sports, Culture, Science and Technology (MEXT) program of International Cooperation Initiative in Education. The Tokai area where TUT is located has a variety of industries dominated by automobile industries and TUT has good experiences of joint research activities with these industries (Homma *et al*, 2008). Whilst, as Olds (2007) argues, the 1997-98 Asian economic crisis, and the rise of China as a manufacturing powerhouse, has unsettled Singapore and forced the country's politicians and officials to think more creatively about ensuring Singapore adapts to and benefit from an evolving global knowledge-based economy (KBE). In this context a shift from low value added manufacturing-based export platform status to high value added manufacturing/global city status is occurring.

In summary, from the previous cases even both KIC and TUT are situated in developed countries, they performed well because they had a great deal on support from their governments. Thus interaction among government and non-government bodies is one of the important factors that make projects successful or fail. Similarly,

this interaction should be applied in developing countries and in all areas not only in technology and science.

2.3.3.5 University-Industry Linkages in Developing Countries

Several studies show the interaction among the private and public sector and universities. For example, the supply of skills has supported regional and urban economic growth (Gaspar and Glaeser, 1998; Kim, 2000). D'Costa (2006) argues that in Bangalore, the UILs are still weak, as are innovation generating capabilities of research entities. The broad mass of SMEs is extremely limited, and inter-firm collaboration among firms in Bangalore is minimal, although contact with foreign clients is frequent and relatively close. In the context of China's national system of innovation, each region has a different role for UILs. Chen and Kenney (2005) describe Beijing and Zhenzhen as having a core of high technology firms and their regions exhibit cluster-like features. In the case of Beijing, UILs are a critical source of knowledge, and entrepreneurs have fuelled the creation of an IT and media based cluster.

The paper by Basant and Chandra (2007) assesses UILs in the context of India's national systems of innovation and concludes that several of the academic institutions of Pune and Bangalore interact with the city's industrial firms and service providers in a variety of ways. Many universities are gearing themselves up to participate in a more systematic manner, however, only a few have any knowledge of networking activities with the various businesses taking root in these urban centres.

Wu (2007) examines the economic contribution made by two universities in Shanghai (Fudan and Jiaotong) and found that although these two universities have been successful in commercializing their research findings, streamlining such UILs in China still faces two institutional shortcomings; one is the weak legal system in terms of well-defined property rights and in contract enforcement, and the other is a shortage of venture capitalists.

The paper by Matthews and Hu (2007) concludes that Taiwan has already demonstrated how Newly Industrialized Country (NIC) can build an export-oriented manufacturing system driven by catch-up strategies linked to knowledge leverage via public institutions. In the 1990s, Taiwan moved toward building its innovative capacity, and in the 2000s it is dramatically upgrading the role of universities in providing fundamental R&D, in acting as incubators of new, knowledge-based firms, and in building the country's innovative potential through IP protection and commercializing activities. They examine how these new approaches are being implemented in three universities, in National Chiao Tung University, National Tsing Hua University-both located in the Taipei metropolitan area, as well as in the Industrial Technology Research Institute which has been the engine that drives Taiwan's technological updating, and continues its role through new emphases on patenting and entrepreneurial technology transfer.

Thus it is not only the innovation factor alone that drives the organisation successfully but other factors such as social factors. Kodama and Suzuki (2007) demonstrate that UILs in Japan are based not so much on direct technology transfer, as seen in the United States, and grounded in formal/legal arrangements, but rather on the transfer of knowledge through indirect channels, which can accommodate better the existing informal relationships between universities and industry in Japan.

The faculties of engineering of the University of Moratuwa and University of Peradeniya in Sri Lanka employ several mechanisms for the purpose of executing activities related to UILs. These mechanisms are undergraduate projects with some industry component, consultancy tasks by the faculty members at the request of industry, and other outreach activities such as seminars, workshops, testing etc. The Engineering Design Centre of the Faculty of engineering and the University Industry Interaction Cell were both established with the assistance of the Asian Development Bank assistance (Homma *et al*, 2008).

From previous studies both in developed and developing countries, university-industry linkages (UILs) are an important means for transferring knowledge to support the private sector. However how the university utilizes the intellectual

capital need not only be in engineering and technology. Etzkowitz focuses on the entrepreneurial university and technology to create innovation. Thus UILs both in developed and developing countries focus on economic development but not on social development. However, previous studies in developing countries have shown the links to be weak. They try to develop in the manner of the developed countries especially in technology. We cannot deny that technology has huge benefits but the developing countries do not have to do everything to look modern as the developed countries. Each has its own identity. Therefore, UILs in this study identify the gap that Etzkowitz's model lacks in terms of academic service. In addition, there are few studies in Triple Helix in tourism, for example, studied by Dahle (2007) in innovative mountain tourism in Norway that focuses on developing mountain tourism into profit. However, tourism has generated huge revenues for Thailand since the 1950's but the country still relies on selling beautiful natural resources without real development. So how does the current situation of UILs in Thailand stand? What does the role of UILs play in tourism?

2.3.3.6 University-Industry Linkages (UILs) in Thailand

There are some Thai UILs studies. For example, Mongkhonvanit (2008) mentioned in Thailand's Eighth (1997-2001), Ninth (2002-2006), and Tenth (2007-2011) Economic and Social Development Plans, there has been an assignment for universities to support the industrial sector through research, innovation production and the generation of individuals with science- and technology-relevant industrial needs. Furthermore, he stated that the Thai government also supports firms and SMEs in the automotive and other sectors through science and technology related institutes/agencies, and government-sponsored organisations. Another study by Intarakumnerd and Schiller (2008) emphasised that appropriate explanations of UILs in developing countries are still lacking and UILs in Thailand are still weak. Mongkhonvanit (2008) examines the linkages and factors influencing relationships between universities and companies in Thailand's automotive cluster. Findings from his research show universities, as important players in the knowledge-based cluster, through three major schemes; the first one is to produce graduates highly relevant to the needs of related sectors; the second is to conduct basic and applied research; and

the last is to collaborate with organisation/institute and industry to create new technology/innovations. He found that there are several challenges: 1) universities do not produce highly qualified and industrially relevant graduates, 2) universities do not understand the nature of industry, 3) universities do not have sufficient resources, 4) universities are not recognized as a critical player in the economy, and 5) universities do not seriously cooperate among themselves and with other related sectors.

From previous study and because of the Thaksin government's policy to shape Thailand as the 'Detroit of Asia', all public and private sector and universities focused on the government policy. Nevertheless, they overlooked the tourism industry even when every government said tourism is important. As long as the country still can sell beautiful natural resources, the government will never take this seriously and prepare for the future as if saying 'the thing isn't broken, don't fix it.' Problems such as the environment and low skilled manpower have emerged but no government has taken serious action.

The study by Brimble (2007) explained that Thai firms are generally not strong on UILs, on protection and low levels of competitive threats, on informal connections, on low levels of cohesion within and among sectors/associations; on a focus on lobbying; and have an inability to reconcile the interests of members. Bureaucratic fragmentation is a key supply-side issue combined with weak SME policies and lack of support for UIL initiatives. Successes tend to be in cases where larger firms have faced serious pressures: such as the shrimp industry – its vulnerability, foreign exchange earning potential, CP leverage, etc. This paper explores university–industry linkages (UILs)—or more specifically, linkages between industry and advanced educational institutions—in Thailand. Because they are key components in the country's national innovation system (NIS), UILs can help Thai producers to 'initiate, import, modify and diffuse technology' (Freeman, 1987). As such, their importance has grown: Thailand's needs for technological competences have become more pressing as the country loses its cheap labour advantage and confronts new competitive pressures. He also recommended that universities could be improved by establishing a track record, culture, and strategic plans, to enhance trust

and mutual recognition that could lead to collaboration and eventually transform the automotive cluster into a knowledge-based and competitive cluster (Hershberg, et al., 2007).

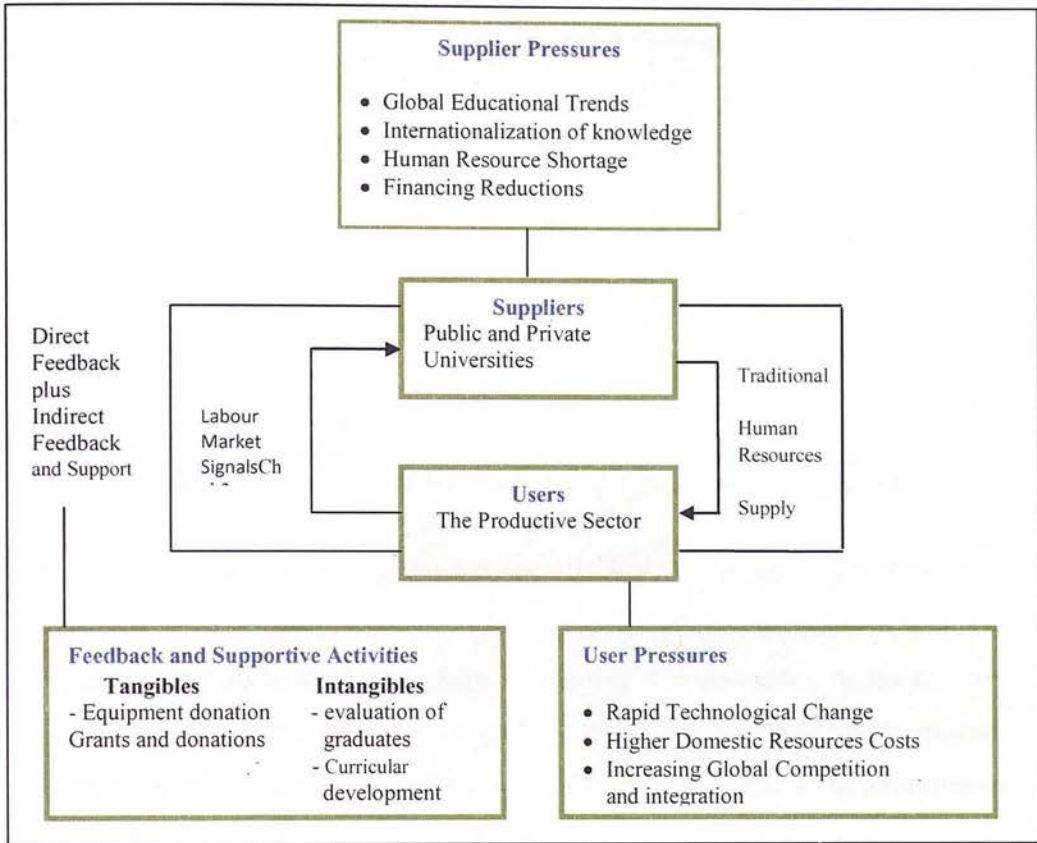


Figure 2.5 University-Industry Linkages: A Macroeconomic Perspective

Source: Adjust from Brimble (2007)

Universities can also play a key role in helping both in term of technology and developing the identity in each local area to make it aware and outstanding in customer's eyes. In addition, Brimble and Doner (2007) claimed in work by Baba (1988) in terms of type of linkage activities as illustrated in Table 2.2 below.

Modality group	Type of linkage activity
Training/education Industrial training Entrepreneurship Visiting lectureship	- Cooperative education
Service/consulting Technology brokerage/licensing Business consulting/services Direct or indirect investments Coordination of technology-related issues	- industrial extension service
Research Joint or cooperative research projects Partnership contact Personnel interchange or industrial fellowships Shared equipment or facilities	- Research consulting

Table 2.2 Models of University-Industry Linkages in Thailand
Source; Adapted from Baba (1985, 1988); Brimble and Doner (2007)

In short, it can be said that globalisation has had a dramatic influence on Thai universities. For example in terms of the tourism industry, sophisticated tourists use the Internet, and so to deal with them effectively the university needs to provide some updating courses such as e-business for hotel and tourism management students who will work in the tourism industry, or even aim to be entrepreneurs. Also, in terms of innovation, the university can cooperate with entrepreneurs and create tools that work well. However, there are several significant obstacles that prevent UILs work effectively.

2.3.4 Barriers to UILs

Various bodies of literature in relation to barriers of UILs such as the study by Salter *et al* (2009), Dasgupta and David (1996) have focused on the core of the obstacles to U–I collaborations, namely the different institutional norms governing public and private knowledge. Although within these practical-oriented areas of research the norms of science still operate, they do so somewhat differently from the Mertonian ideal of science. Researchers in these areas are more likely to be engaged on real world problems and interacting with industry and their status is likely to be co-

determined by their reputation among their peers and their standing in industry. This is especially true in the case of engineering (Mowery and Sampat, 2004). In contrast to the relatively open nature of the science system, the process of knowledge creation in the private sector is dominated by attempts to appropriate the economic value of what firms know in order to gain competitive advantage (Lundvall, 1988). They may also participate in open source software projects to help lower the costs of their own development activities (Nelson, 1993).

Much of the research supported by government is applied, or practically oriented, and focused on solving general social, technical or economic problems using the capabilities of science (Edqvist, 1997). Similarly, the policy of Thai government such as financial support through universities has significantly influenced industry indirectly or indirectly. The role of the university as an educator of professionals – doctors, engineers, accountants, lawyers, etc. – means that a large proportion of their staff are focused on fields of research that engage with practical problems. For the researchers working in such areas, practical problems provide a powerful stimulus to the development of new ideas (Gibbons et al., 1994).

Despite these examples of openness, the primary motivation of firms' knowledge creation activities is the appropriation of knowledge for private gain, and openness to external actors is used as a strategic mechanism to gain advantage over competitors (Nowotny, et al., 2001). The increase in university patenting has been accompanied by a slowdown in joint research collaborations (Etzkowitz & Leydesdorff, 1997) and in the pace of private knowledge exploitation across a number of technological areas (Leydesdorff, 1997). It is also clear that in some cases, attempts by universities to capture the commercial benefits from research have led to significant distributional conflicts between universities and their industrial partners (Morrison, et al., 2002; SEAMED RIHED & OHEC, 2010). These distributional conflicts are often accentuated by the unrealistic expectations held by universities about the commercial potential of university research (Molas-Gallart, 2002), which can result in their overvaluing IP. These types of conflicts with

TTOs and university administrations may put a significant strain on collaborations, eventually deterring firms from collaborating with universities.

2.3.4.1 Barriers to UILs and Thai tourism clusters

In the meantime a cluster has its own characteristics and its own strategies so it has different kinds of problem. Thus there are several significant external and internal barriers such as the attitude of participants and the strategy and the policy of the government that prevent tourism clusters from achieving their goals. Tourism is fundamentally different from most other foreign trade in that it has a high culture change potential and because it involves large numbers of people in direct person-to-person contact (Ketudat, 1990). The further question, given that tourism is a service industry, is how the university assists the tourism cluster to create value-added. There is little study in this area. As tourism is an integrated activity, the multilateral meetings which include government organisations, local people and the private sector, especially business investors, should be regularly organized to establish a network of tourism, training institutes and organisations in rural areas (Rattanawongchai, 1998).

The role of responsible authorities in both the private and public sectors has to be clearly defined. Strong cooperation between the public and private sectors can create more competitive rural tourism. Education and training in management and finance for small businesses is a crucial factor. Groups of experts should be available to provide advisory services to rural communities engaged in tourism development. In addition, there should be continuous research on how to maximize the economic benefits from tourism in a sustainable way (Rattanawongchai, 1998). However, tourism destination competitiveness, in particular, is becoming an area of growing interest among tourism researchers (Dahle, 2007; Gaspar and Glaeser, 1998; Jacob, *et al.*, 2003; Molas-Gallart, *et al.*, 2002; Rothaermel, *et al.*, 2007; Siegel, 2006). Virasa (2011) considers that

“At a time when tourism worldwide is becoming increasingly competitive . . . all insights into the development, strengths, and weaknesses of competing destinations will become even more crucial.”

Peacock and Ladkin (2002) explore the relationships between a university and its local tourism industry. Although there has been much research on the interface between education and industry, few empirical studies exist that test the extent and nature of these relationships. This paper reviews the industry–education interface both in broad terms and specifically in relation to tourism education. Key areas of interaction are identified, and, using an empirical case study, various types of industry–education links are investigated, including: recruitment, employers' preferences in graduate skills, work experience and placements, industry involvement in course design, training for the tourism industry, the use by industry of university products and services, and industry's views on forging links with education.

The work of Braun (2002, 2004, 2005) shows that embracing ICT and technology is still a complex and phase-based process for SMEs; the top-down and technology-driven initiative undertaken on behalf of this tourism network left local operators with no sense of belonging and no perceived sense of value in virtual clustering. In addition, the National Economic and Social Development Board (NESDB) (1994) did an in-depth study of the labour force situation among middle-and high-level personnel within the tourism industry and indicated that the quantity of graduates from the educational institutions was sufficient to serve the demands of the industry (Littlejohn, *et al.*, 1996). However, there were problems in terms of quality since the graduates' qualifications were not up to the standards required by the employers.

Enright and Newton (2005) provide strong empirical support for the inclusion of both industry-level and destination attributes in studies of tourism competitiveness and found that the relative importance of attributes is common across locations depending on product mix and target market segments, especially in complex, multifaceted industries such as tourism. Chaisawat (1996) indicated that the unsolved problems and constraints in running hospitality and tourism programs in universities/institutes still existed.

Previous studies concentrated on several significant barriers that affected tourism clusters such as lack of clarity in the roles of actors; and universities do not have

enough qualified staff in the tourism industry. However if the university top management understands that the interaction within tourism clusters will create benefits for all entities, then the universities themselves will gain deep understanding from the real situation that tourism is dynamic and so can adjust their own curriculum. At the same time, the private sector gains benefits as well: for example, it gets graduates who can work as they want, which is better than having to train them which is costly. How does the role of UILs play out in tourism?

2.3.5 Effective UILs and Thai tourism clusters

Globalisation has had a dramatic effect on the way people live and do business. In terms of the tourism industry social factors impinge, such as the life style of sophisticated tourists normally searching for information before traveling and doing transactions via the Internet. So the organisations related to tourism need to adjust themselves in response to these unique tourists. However, it is not only technology that needs to be utilized but human skills also need to be developed.

The case studies analysis of successful cluster formations by Michael (2007b) concludes that co-location by itself does not lead to integration with other aspects of tourism, nor to synergies with other parts of the market; rather, that effective clustering is a deliberate business development strategy based on co-operative practices, not just between firms within a market segment but across a broader industry.

In the study by Baum and Sziva (2000), it is widely argued that people are vital for the successful delivery of tourism services and, as a consequence, those who work in tourism are widely portrayed as a critical dimension in the successful operation of business within the sector.

“The story of successful of businesses is one that is largely about people-how they are recruited; how they are managed; how they are trained and educated; how they are valued and rewarded; and how they are supported through a process of continuous learning and career development.

In order to create effective UILs to support clusters, it must have a synergy between supporting industries such as the university and the cluster.

As UNWTO mentions, given the huge number of tourists traveling, there is a requirement for skills such as language, how to communicate, and how to deal with problems and so on to satisfy niche markets. All these things need to be born in mind by those in tourism related sectors in government since tourism generates significant revenue for the country and for universities since they produce graduates for this industry. None of this happens by accident (Baum, 2008).

In sum, the role of the university is significant in producing qualified graduates to deal with a dynamic changing world. Consequently, universities should adjust their curriculum to meet the customers' wants, such as providing a range of language courses so that students can communicate with tourists. In addition, students should learn to use technology to make their performance efficient and effective. Thus how to utilize technology and human skills to increase the competitiveness of the cluster is a 'must' that universities need to provide to students for the benefit all parties.

2.4 Social Network

Social (including knowledge) networking, at a strategic level, is said to sustain industrial district flexible specialization (Piore and Sabel, 1984) since the information networks are the organisational form of dominant activities (Castells, 2000). Castells also emphasised that from the social view, the real power is the power of instrumental flows and cultural codes embedded in networks, and pointed out that social network theory is still in its exploratory stage and open to rectification by empirical research.

The following sections examined social flows, physical flows, knowledge flows and value flows (see figure 2.6). Clusters, especially localised clusters, such as tourism in Thailand, are bound together by *social glue*. At the local level people know and learn to trust one another – these are the social flows that according to Hall *et al* (2007) sustain micro-clustering by creating a shared knowledge base aligned with shared goals related to what will make the cluster successful. A great deal of research supports the view that social flows are of paramount importance to localised clustering, including Middleto, 2001; Hall, 2005; Hall and Rusher, 2005; Cioccio and Michael, 2006; Hall et al 2007). The goals (often implicitly) agreed in

social flows are both economic and social. For example, Jackson's (2006) research on income inequalities in China, reveals that within localised (inland) tourism clusters, a shared goal is to reduce inequality gaps between themselves and the coastal areas, by adopting closer coordination and networking. One reason why insufficient attention is paid to *social flows* as a key element in cluster building, is that Porter's work (1995 and 1998) identifies markets as the only drivers of clustering: this is clearly at odds with the powerful body of evidence cited above, which acknowledges social (in addition to market) forces as a key element in clustering, especially localised clustering.

My study argued that a closer analysis of the value flow in Thai tourism clusters reveals them to be important conduits of knowledge and therefore a significant component in a closer relationship between innovation and knowledge especially the link between the Thai tourism cluster and its universities. The contribution of this study is to increase understanding of content and flows to assist clusters and to provide theoretically robust tools for policy makers and practitioners within Thai tourism clusters.

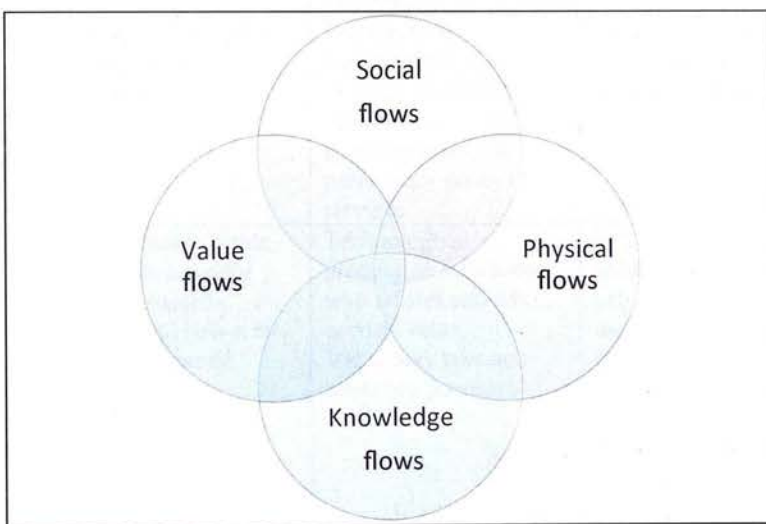


Figure 2.6 Model of flows
Source: Adjusted from Kinder (2003)

Gibson and Lynch (2007) point out that tourism is connected to geographical places or communities with a social and cultural history. This research merges with the

work on political, economic and social dimensions that contribute to rural tourism areas (see, e.g., Elbe, 2002; Hall, 2000; Karlsson, 1994; Muller, 1999). The benefits of clustering are available to all the cluster's members driven by the economic dynamics of the context of regional and local development (Michael, 2007a). Kinder (2003) stated that recent studies have focused on the dynamic efficiencies that emanate from learning at the cluster level which emphasise the importance of knowledge flows to firms, social and relational capital, and the capabilities of firms as critical factors necessary for the continued success and growth of industrial clusters. Each case study will have the same analytical structure based on the model of flows (see table 2.3) adapted from Kinder (2003), "Flows in Business Supply Networks."

	Flows in networked business Supply relationships	Characteristics of flows in supply networks	Siriluk's Commentary
Social Flows	Interaction between people or collections of people	Appropriate governances and types of power in use is a function of the quality relationships in the network.	In terms of tourism cluster, interaction among three entities use both formal and informal ways and inside and outside cluster
Physical Flows	Changes in tangible shape and or material location	The creation, manipulation and location of materials, commodities, parts and subassemblies and proprietary goods or services.	Changes in tangible assets including the budget allocation to support the cluster.
Quality Flows (value)	Value flows dictate where in a supply stream value is added and how it is then distributed	Technological production influences who creates and who accrues value. Value may take non-monetary forms.	In terms of tourism industry, personalization can be response to unique needs of sophisticated tourists. In addition, well trained workers will be needed in service industry. Also, each destination should present its own identity.
knowledge Flows	Knowledge generation, transfer, socialization or accumulation from the viewpoint of knowledge management or of learning	Power within networks may dictate how the benefits of knowledge are distributed.	Intellectual capital collectively helps to increase the competitive advantage of the cluster.

Table 2.3 The flows model in business supply networks

Source: Adjusted from Kinder (2003).

2.4.1 Social Flows

There is an approach that identifies a number of key factors that contribute to the way in which a complex set of institutions and actors, comprising the innovation system or the cluster respectively, contribute to the process of innovation and economic growth (Porter, 1998, 1999, 2000, 2008; Nordicity Group, 1996; Boston Consulting Group, 2000; Wolfe, 2000). Recent work by Wolfe (1997, 2000), Amin and Thrif (1995), Saxenian (1994), and Storper (1997) found that innovation is fundamentally a geographical process: facilitated, though not necessarily contained, by spatial clustering of the involved parties within the same region.

In studies conducted by Lynch and Gison (2007), the tourism network called Guldriket was established (1993) to protect the cultural and historical heritage of Vasterbotten, given the extent of its mining and geological history. Also, in other studies by the same authors in 2001 and 2004, the ‘Leith Initiatives for Tourism’ (LIFT) was created in 1999 to focus on networking or social activities as well as marketing actions, such as: ‘familiarisation trips’, a ‘waterfront festival’ and various ‘social drinks and networking events’.

2.4.2 Physical Flows

Cooke (1992) argues that the proactive use of economic regulatory mechanisms creates differential incentives and opportunities. Additionally, Castells (2000, p. 199) writes as follows:

“In Japan, government backed its guidance with powerful financial and fiscal measures, as well as with selective support for strategic R&D programs. At the core of government industrial policy was the activity of the Ministry of International Trade and Industry (MITI), which periodically elaborated vision for Japan’s development trajectory. The MITI targeted specific industries for their competitive potential, and provided a number of incentives, such as tax breaks, subsidies, market and technology information, and support for R&D and personnel training.”

(Castells, 2000: p.199).

To analyze the value flow approach, this network will be informed by actual structures that depend on governances agreed as suitable for the goals participants

set for the network (Kinder, 2003). Access to capital, human resources, marketing and commercial infrastructure are constrained by the physical difficulties of a locality's distance and relative isolation from the main centres of economic activity, serving to increase cost structures even if there exists an attractive tourism activity at that particular locality (Michael, 2007). This is true in small tourism communities in Thailand.

2.4.3 Knowledge Flows

In terms of learning and exchange in a comparison of the Guldriket and Leith studies, Gibson and Lynch (2007) explain that in the Guldriket case there was increased communication between the operators of attractions across local municipality borders, helped by the website and an Internet. They also state that the network has contributed to the development of new cultural values, including an enhanced appreciation of the region's industrial heritage. While in Leith, there is evidence of knowledge transfer through visits to LIFT members' businesses and through participation in a tourism education process through e-commerce seminars and the like. Political and social institutions, along with various policies, can play a crucial role in supporting the emergence and development of partnering activities among firms and stimulating the transformation of such networks into broader systems of innovation and production (Basant, 2008). In fact, in most of the European success stories of networking in industrial clusters, regional and local governments played a crucial role as for instance Knowledge-Integration Community (KIC) projects.

2.4.4 Value Flows

Networks and clusters can help in the innovation process of tourism SMEs (Ahuja, 2000; Fukugawa, 2006; Haga, 2005; Holbrook and Wolfe, 2005; Liyanage, 1995; Mteio, Aste, and Gallegati, 2005; Perryman and Combs, 2005). There is a correlation between competitiveness produced by clusters and the ability of members to improve their services and products through inter-firm linkages and

innovative business approaches (Enright & Newton, 2005). In terms of value-added matters, Michael (2007a) mentions in the study of Brandenburger and Nalebuff (1997:14-15):

Thinking complements is a different way of thinking about business. It is about finding ways to make the pie bigger rather than fighting with competitors over a fixed pie. To benefit from this insight, think about how to expand the pie by developing new complements or making existing complements more affordable.

(Brandenburger and Nalebuff, 1997)

Carlisle *et al*'s (2013) study of innovation and entrepreneurship provides concludes that value-flows are essential in advancing the quality of the international tourism industry. For Less Economically Developed Countries (LEDCs) tourism innovation is an opportunity to differentiate the tourism product making it more competitive and increasing socio-economic gains at grassroots level counteracting foreign currency leakages from the destination. Drawing upon empirical research in Africa, Carlisle *et al* (2013) shows that for small indigenous businesses in LEDC destinations to flourish a supportive environment promoting innovation and entrepreneurship is required. The paper emphasises the importance of multi-stakeholder collaboration. Value-flows, seeks to increase the value flowing to local (as opposed to international) businesses and govern the distribution of value between local businesses demonstrating the importance of institutional support in stimulating networking, transfer of knowledge and best practice in LEDC destinations.

2.5 Synthesis

2.5.1 Synthesis of Conceptual framework

Model	Author	Strengths	Weakness	Argument
Clustering	Porter (2008)	-Entity Competitive Advantage	-Not clear boundary -Relation -Function is not clear -Lack of mechanics of control	-Discuss on national level not in local level and niche market - Not in social dimension - Not in relationship linkage within cluster -Discuss only innovation from advanced technology
Triple Helix	Etkowitz (2002)	-Interaction among parties -Incubation	-Entrepreneurial university	- Entrepreneurial university-funding/JV with big companies so less interested in rural development -Role of university-academic service
Social networking	Castells (2000)	-Social dimension	-Informal -not clear boundary -volunteer/lack of commitment -in its exploratory stage -inadequate study of UILS in service industry in particular the tourism industry, in Thailand.	-Commitment -Knowledge flows/ Value flows

Table 2.4 Synthesis of Conceptual Framework; Source: Author

Table 2.4 demonstrates the synthesis in my conceptual framework seeking to align the market (competitive advantage) elements found in Porter (2008), with the importance of university-industry-government interactions emphasised in Etkowitz's (2008) triple helix. The alignment of these market and non-market forces is governed by social networking (Castells 2000) requiring local actors to cooperate to create and distribute value flows, based around social networks that engender trust and shared destiny. My synthesis overcomes some of the weaknesses in Porter's (2008) model, principally an under-theorisation of the processes of cluster building; in particular, I call attention to the importance of cluster boundaries and causal relationships in localised clusters, a feature receiving no attention from Porter.

The significance of cluster theory by Porter (2008), there are strengths as the interconnected group in join to produce specialised products which lead to

competitive advantage of the group. However, there are several weaknesses of theory such as there is no clear function and boundary and lack of mechanics to control and lack of commitment. Next, a Triple Helix of university-industry-government interactions is the key to innovation in increasing knowledge-based societies (Etzowitz, 2008), however, he emphasised on entrepreneurial university but overlook on academic service. Whereas Social Networking has strength on social dimension but it is no clear boundary and lack of commitment and was studied on exploratory stage.

2.5.2 Synthesis of Studies of Tourism Clusters

Table 2.5 below demonstrates the value of my theoretical synthesis, by illustrating its application to empirical studies in various countries. For example, Acworth (2008) focus on Knowledge Ingration Community (KIC) Project in UK. The KIC model developed by the Cambridge-MIT Institute (CMI) for the UK offers a more effective approach to knowledge sharing, and presents the results from the Silent Aircraft KIC. While there are a number of factors influencing the success of technology transfer from universities, intermediary functions are cited as having an important role - in particular the role of intermediaries in facilitating links between universities and the potential users of knowledge. The KIC project seeks to integrate several organisations both government and non-government and universities to help communities, and has a huge budget from the government. CMI may have overstated its capacity to engage participation from all sizes and types of business from large corporations to small and medium enterprises (SMEs) and start-ups. Olds (2007) examined the Singapore case as a shift from low value added manufacturing-based export platform status to high value added manufacturing/global city status is occurring, as a result, Singapore's attempts to become the "Boston of the East", (a global knowledge-based hub associated with innovation, creativity, informed debates, and significant UILs. The National University of Singapore shifted from manpower provider and knowledge creator to taking on a knowledge commercialization and recruitment of foreign talent. As a result, the university pays no attention to academic service. Another study by Intarakumnerd and Schiller

(2008) emphasised that appropriate explanations of UILs in developing countries are still lacking and UILs in Thailand are still weak. Bringing together theory from clustering, triple helix and social network theory adds important analytical dimensions from which to understand the previous empirical research shown in Table 2.6.

UILs	Author	Characteristics	University	Strength	Weakness
UK	Acworth (2008)	Knowledge Integration Community (KIC)	Cambridge-MIT Institute	-Knowledge exchange -Government support - £85 million	-Claim to apply to all types of organisation -Several organisations with different objectives
China	Chen and Kenney (2005) and Wu (2007)	High technology/ Media based cluster	- Beijing –creation of IT and media based cluster - universities in Shanghai (Fudan and Jiaotong)	-Beijing, UILs are a critical source of knowledge - Fudan and Jiaotong- two universities success in commercializing	Two institutional shortcomings; weak legal system -property rights and in contract enforcement and shortage of venture capitalists
India	Basant & Chandra (2007)	NSI	Institutions of Pune and Bangalore interact with the city's industrial firms and services providers	-Many universities are gearing themselves up to participate in a more systematic manner.	-Few universities have knowledge of networking activities with the various businesses taking root in these urban centres.
Singapore	Olds (2007)	Entrepreneurial university	National university of Singapore	-Shift from manpower provider and knowledge creator to taking on a knowledge commercialization and recruitment of foreign talent. -Joint operation with foreign universities	- Overlook on academic service -Rely on famous foreign universities
Taiwan	Matthews and Hu (2007)	Innovative	Implemented in three universities, in National Chiao Tung University, National Tsing Hua University	Since 2000s - the role of universities act as incubators of new, knowledge-based in the Taipei metropolitan area, as well as in the industrial Technology Research Institute (ITRI) which has been the engine that has driven Taiwan's technological updating, and continues its role through new emphases on patenting and entrepreneurial technology transfer firms,	
Sri Lanka	(Homma et al, 2008).	Engineering Design Center of the Faculty of engineering and the University Industry Interaction Cell	Faculties of engineering of the University of Moratuwa and University of Peradeniya, with the assistance of the Asian Development Bank (ADB)	With the assistance of the Asian Development Bank (ADB)	

Table 2.5 Synthesis of Studies of Tourism Clusters; Source: Author

2.6 Derived Conceptual Framework

After critically evaluating and reviewing literature in previous sections, this study is proposing an initial theoretical framework. This use of literature to formulate the initial framework was warranted by (a) the exploratory nature of the study; and (b) the lack of prior knowledge about the contribution of university industry linkage to tourism clusters in Thailand. This conceptual framework has three components: cluster theory, Triple Helix Model, and Social Networks. All these components have strengths that each one singly lacks (see Table 2.4) and so, if all are integrated together, the model works better, thus, leading to better understanding of the research topic. The initial conceptual framework for this study (table 2.6) is based on concepts derived from the three components of cluster theory, Triple Helix Model, and Social Networks. The following sections explain how these concepts are integrated to guide the empirical fieldwork as well as the analysis and discussion of the thesis.

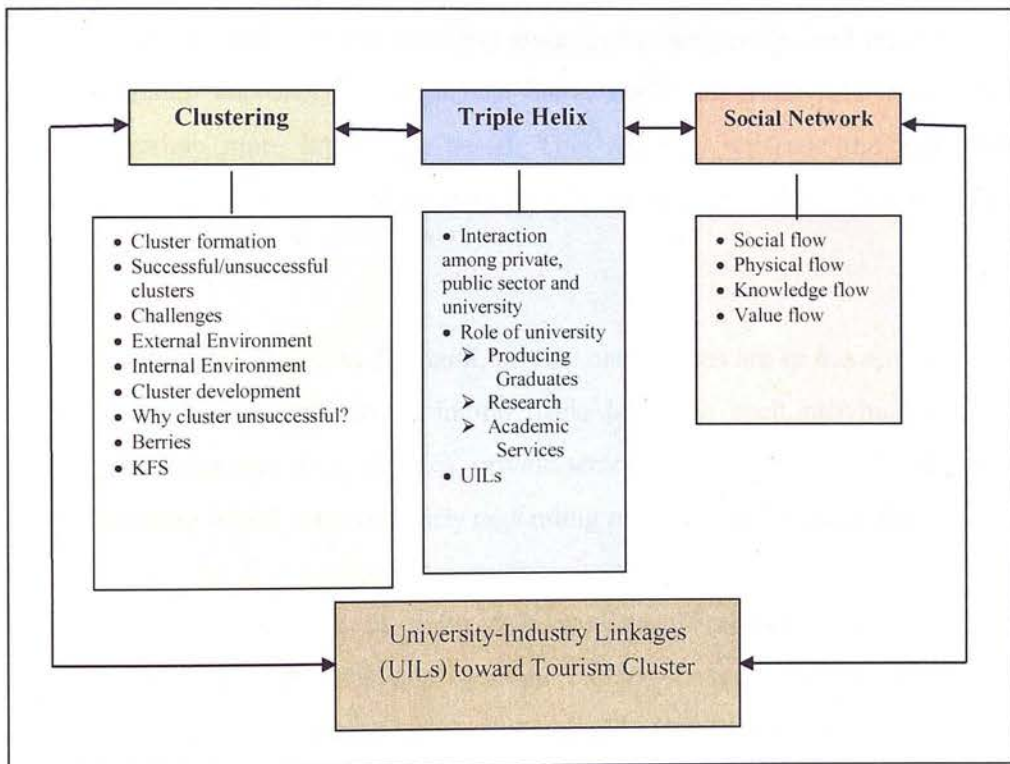


Table 2.6 Conceptual Framework; Source: Author

1. Clustering theory

This is a geographical group of interconnected companies and associated institutions that link their flow of value e.g. knowledge transfer between university and industry. The benefits of clustering are available to the entire cluster's member firms and spill over into its host community, driven by the economic dynamics of context of regional and local development (Michael, 2007a).

Globalisation has dramatically affected all organisations both public and private sectors, no matter how large or small. All need to adjust to survive or grow. However resources are limited so it is difficult for an organisation to remain alone. They need to work closely together to utilize the limited resources effectively and efficiently for mutual benefits. This is the reason why we need networks.

2. Triple helix model

This refers to the interconnection among government, university, and industry. The entrepreneurship university is playing an increasingly important role in society as industry become more knowledge-based. This research will use the triple helix model as the framework for understanding and analyzing the relationship among the three entities.

In terms of the triple helix, in Thailand, private universities are in the second model, and some public universities are in the triple helix. In each province there are committees comprised of universities, private sectors such as chamber of commerce, and Government which meet regularly depending on agreements within the group.

The conceptual framework in three case studies of relationships between the university-industry in the Thailand tourism clusters concentrates on the existing relationships and how to create innovation and add value to the service industry and identifying the appropriate model that suits and makes tourism clusters effective for Thai society.

The KIC model stimulates an effective transfer of knowledge by incorporating all the factors that have been mentioned earlier. Further, in order to facilitate the utilization of research outputs to promote economic growth and societal benefit, Cambridge – MIT – Institute (CMI) has chosen to focus on initiatives with “a consideration of use”. Research with a “consideration of use” is application driven, but no less fundamental in its scholarly impact. It aims to develop important products and viable solutions that benefit society and contribute to the economy’s competitiveness.

Not only infrastructures, but importantly, products and services must meet the customers’ wants. Quality is an important consideration within niche markets. In the service industry especially the tourism industry at local level, each organisation must create unique products and services regarding skilled employees short term and long term. So the university is the key entity that produces graduates to support and also train employees in the long run. Feedback received can improve the curriculae and provide core courses to meet essential need.

3. Social Network

This refers to the information age that shifts power from the vertically integrated hierarchy to informal flexible networks. The advantage is no one can hide from the digital world. Since it is informal, no boundary, no identity, or social network can be controlled. Some may be unreal and cause harm. For this reason if the tourism network is connected by U-I-G, there is an elected group on which to base their knowledge who can take the lead. Entities in clusters can act to prevent damage to the image of the nation.

This study used cluster theory, Triple Helix Model and Social Network as the framework for understanding and analyzing how University-Industry Linkages (UILs) can support tourism clusters.

One prominent motivation for the formation of early companies is the availability of pools of factors, such as specialized skills, university research expertise, an efficient

physical location, or particularly good or appropriate infrastructure (Porter, 2008: 253).

In Thailand, cluster formation was established by the government for use as the mechanism for increasing the competitiveness of the nation. However, most of these clusters declined. So this model is used to explain and analyze what makes the cluster successful or unsuccessful? In terms of tourism, there are several influential factors that affect tourism clusters such as socio-technological, environmental, and how participants in the cluster prepare themselves to cope with these challenges to sophisticated tourists and meet their unique demand. In addition, there are several barriers to such interaction among the public and private sector and the university that obstruct the cluster's growth.

One of the significant key success factors (KSF) such as the niche markets that should be developed in a country like Thailand should receive considerable attention because this is how a small country like Thailand can compete with China in mass products. Unique and high quality products and service with innovation can be the alternative way forward. In terms of unique products and services, Porter (2008: 225) stated that:

The productivity and prosperity of a location rest not on the industries in which its firms compete, but on how they compete. Firms can be more productive in any industry - shoes, agriculture, or semi-conductors - if they employ sophisticated methods, use advanced technology, and offer unique products and services. All industries can employ high technology; all industries can be knowledge intensive. The term 'high tech' normally used to refer fields such as information technology and biotechnology, thus has questionable relevance. A more descriptive term might be enabling technology, signifying fields providing tools that enhance technology in many industries.

Porter (2008: 225)

However, it is important to consider how Thai tourism clusters at the local level can enhance their performance and create unique products and services to meet customer's wants. Under the cluster strategy, the Triple Helix concept can be used to achieve this goal. The role of participants within the cluster is important.

As, Etzkowitz (2008, p.1) stated that:

The interaction among university, industry, and government is the key to innovation and growth in a knowledge based economy.

Etzkowitz (2008, p.1)

The government can support in many ways such as regulation and budget. The associations in relation to tourism can help and guide the cluster. The university, besides teaching and doing research, should do more on its third mission; academic service. So the university must fulfil all missions to assist local communities such as tourism clusters at a local level to meet the requirements for a niche market. Whilst social network can help tourism share valuable information among participants and access to customers, this can help local community growth in the longer term. Then all entities can achieve mutual benefits and serve society as Staudhammer and Weller (2012) claimed in Whitehead (2004), ‘If education is not useful, what is it?’

In summary, Lynch and Morrison’s (2007) perspective from Table 2.1 differentiating networks from clusters heralds from a critical sociology viewpoint; my own viewpoint is more that of business and economic development. Hence, in table 2.1 I highlight the fact that business clusters are more open than business networks since stakeholders may ‘accidentally’ join the cluster (by virtue of location), whereas joining and maintaining network membership requires purposive intent. Lynch and Morrison’s (2007) focus on peer-to-peer social interactions, trust and values as maintaining network integrity, arguing that these are less evidenced in a cluster. Whilst this may be the case, the cluster, since it has articulated business goals, requires leadership; this may be collective or individual, however, it provides cohesion to strategy making and service delivery a point Lynch and Morrison’s (2007) sociological perspectives misses. Fundamentally, I differ from Lynch and Morrison’s (2007) differentiation between network and cluster *aims* since they argue that it is difficult for clusters to articulate clear goals since they are social constructions. This misses the point that networks too are social constructions and that research on cluster outcomes (such as Castells and Hall 1994) illustrate many clusters that have successfully negotiated and delivered business goals. In summary, whilst the sociological perspective on networks and clusters provides insights, from a business and economic development perspective it hides more than it reveals: my research takes the business perspective.

CHAPTER THREE RESEARCH METHODS

3.1 Introduction

This chapter explains why the methodology was used and how it was used. It is organized in eleven parts: 3.1) introduction; 3.2) Research objective; 3.3) Philosophy of research covering strengths and weaknesses of the positivist and the phenomenological approach; 3.4) Research strategy; 3.5) Research design. In this section I describes the choices that are of particular significance and overview of methodological approach; 3.6) Methodological approach. I have used case studies to understand and explain the nature and characteristics of University-Industry Linkages (UILs) between Thai tourism clustering and its universities. A theoretical framework was developed describing how UILs can enhance the competitiveness of the tourism cluster. I used mix methods to seek to develop a theory relating to the case studies. There are two stages of collecting data: the pilot study and four main case studies; 3.7) Strategy of Inquiry; 3.8) discussion of data analysis method; 3.9) Reliability, validity, and language issues; 3.10) Ethical issues; 3.11) Conclusion.

This research examined the University-Industry Linkages (UILs) involving Thai tourism clusters and its universities. It has been assumed that the university is the source of knowledge that can utilize its potential intellectual skills and technologies from the training courses to innovation in order to support successful tourism clustering. This suggests that each cluster will vary – geography / pattern of products and services / activities / cultures - as a result the activities and context in different clusters. Thus the study aims to develop an applied model in the context of Thai society and to understand the relationship of the UILs. The former attempt to answer what and the latter seeks to descriptions and explanation from participants within clusters.

3.2 Research Objectives

I used Blaikie (2008) to guide the research objectives as follows: firstly, Exploration. Exploratory research is necessary when very little is known about the topic being investigated, or about the context in which the research is to be conducted (Blaikie, 2000: 73). This study attempted to explore the attitudes of participants in tourism cluster; secondly, Description. Description research seeks to present an accurate of some phenomenon, distribution of characteristics in some population, the patterns of relationships in some social context, at a particular time, or the changes in those characteristics over the time (Blaikie cited in Bulmer 1986: 66). This study attempted to find what is role of university, the public and private sectors has played toward the cluster and how they interact to each other; thirdly, Explanation. Explanation research seeks to account for pattern in observed social phenomenal, attitudes, behavior, and social relationships, social processes or social structures (Bulmer 1986: 66-67). How have socio/economic/ technological factors affecting Thai tourism was explained; and fourthly, Understanding. While understanding associated with the meaning of an event or activity in a particular social content, either that given by social actors or the meaning that that researchers derive from social actors' accounts (Blaikie, 2000, p.75). Thus when explanations are produced, understanding is based on I grasped the subjective consciousness, the interpretations.

3.3 Philosophy of Research

There are at least three reasons why an understanding of philosophical issues is very useful. Firstly, it can help clarify research designs, and by 'research design' I mean more than simply the methods by which data is collected and analysed. It is the configuration of a piece of research: what kind of evidence is gathered from where and how such evidence is interpreted in order to provide good answers to the basic research question. Secondly, knowledge of philosophy can help the researcher to recognize which designs will work and which will not. It should enable the researcher to avoid going up too many blind alleys and indicate the limitations of particular approaches. Thirdly, a knowledge of philosophy can help the researcher identify, and even create, designs that may be outside his or her past experience. It

may also help the researcher to adapt research designs according to the constraints of different subject or knowledge structures (Easterby-Smith *et al.*, 1996).

3.3.1 Philosophical Approaches

There is a long-standing debate in the social sciences about the most appropriate philosophical position from which methods should be derived; one is positivism and the other is phenomenology (Easterby-Smith *et al.*, 1996).

Quantitative research lies within the research paradigm of positivism, referring to a research tradition derived from the natural sciences. The terms, positivism, was originated by August Comte (McKelvey 2003). The key idea of positivism is that the social world exists externally, and that its properties should be measured through objective methods, rather than being inferred subjectively through sensation, reflection or intuition (Easterby-Smith *et al.*, 1996).

In terms of positivism, Easterby-Smith *et al.* (1996) and Comte (1853), there are a number of implications as follows: independence; the observer is independent of what is being observed; value-freedom; the choice of what to study, and how to study it, can be determined by objective criteria rather than by human beliefs and interests; causality; the aim of social sciences should be to identify causal explanations and fundamental laws that explain regularities in human social behavior; hypothetic-deductive: science proceeds through a process of hypothesizing fundamental laws and then deducing what kinds of observations will demonstrate the truth or falsity of these hypotheses; operationalization: concepts need to be operationalized in a way which enables facts to be measured quantitatively; reductionism; problems as a whole are better understood if they are reduced into the simplest possible elements; generalization: in order to be able to generalize about regularities in human and social behavior it is necessary to select samples of sufficient size; and cross-sectional analysis: such regularities can most easily be identified by making comparisons of variations across samples. Within finance and accounting and operational research, it is inevitable that a lot of research will focus on measurable and quantifiable factors, and that the researcher remains as distanced as possible from data or problems being tackled. Thus researchers tend to use a positivism approach.

In contrast to the quantitative method, the early development of ideas now associated particularly with qualitative research can be linked to the writhing of Immanuel Kant who argued that there are ways of knowing about the world other than by direct observation and people use these all the time (Ritchie and Lewis, 2007). Kant proposed as follows: perception relates not only to the senses but to human interpretations of what our senses tell us; our knowledge of the world is based on understanding which arises from thinking about what happens to us, not just simply from having had particular experiences; knowing and knowledge transcend basic empirical enquiry; and distinctions exist between scientific reason and practical reason.

	Positivist Paradigm	Phenomenological Paradigm
Basic beliefs:	The world is external and objective Objective is independent Science is value-free	The world is socially constructed and subjective Observer is part of what observed Science is driven by human interest
Researcher should:	Look for causality and fundamental laws Reduce phenomena to simplest elements Formulate hypotheses and then test	Focus on meanings Try to understand what is happening Look at the totality of each situation Develop ideas through induction from data
Preferred methods include:	Operationalizing concept so that they can be measured Taking large samples	Use multiple methods to establish different views of phenomena Taking small samples investigated in depth or over time

Table 3.1 Key feature of positivist and phenomenological paradigms
Source: Easterby-Smith *et al.* (1996).

Similarly, the new paradigm that has arisen during the last half century, largely in reaction to the application of positivism to the social sciences, stems from the view that the world and reality are not objective and exterior, but that they are socially constructed and given meaning by people (Easterby-Smith, *et al.*, 1996; Husserl, 1946).

For the anti-positivists, the social world is essentially relativistic and can only be understood from the point of view of the individuals who are directly involved in the activities which are to be studied, (Easterby-Smith *et al.*, 1996). They can understand human activities by participating or being an insider rather than outsider.

The strengths and weaknesses of the positivism and the phenomenological approach can be summarized as follows. In the case of the positivist paradigm, the main strengths are that: they can provide wide coverage of the range of situations; they can be fast and economical; and particularly when statistics are aggregated from large samples, they may be of considerable relevance to policy decisions (Easterby-Smith *et al.*, 1996). This method tends to be rather inflexible and artificial; it is not very effective in understanding processes or the significance that people attach to actions; it is not very helpful in generating theories; and because it is focused on what is, or what has been recently, it is hard for policy makers to predict what changes and actions should take place in the future (Easterby-Smith *et al.*, 1996).

I have argued above that synthesising cluster and triple helix theory with social networking theory aids understanding. Of course deep understanding requires a methodological approach uncovering rich, meaningful data. Having adopted a phenomenological approach, my interviews dug deeply into situated motivations, feelings and meanings, constructing believable narratives rooted in actual events and decisions (Easterby-Smith *et al.*, 1996). This approach demanded a great deal of time, patience and resources. Qualitative studies often feel very untidy because it is harder to control their pace, progress and end-points (Easterby-Smith *et al.*, 1996). In addition, Dalton's (1964) work in pioneering studies of what managers do in practice, looking at only one organisation in depth could limit the general reliability of the conclusions so he supplemented his work with studies through other contacts with several other organisations in the same area.

On reflection, the reasons for adopting a phenomenological approach to data gathering are justified. The research context is my homeland Thailand thus it is socially constructed and I am rather subjective as I collect and present the data. I am

part of what I have been observing, as I cannot isolate myself from the context, neither can I be independent of the surrounding of the research context in the different parts of Thailand. This scientific study is driven by my human interest in getting better policy recommendations to make Thailand a better place to generate business activities and thus better standard of living. In my research I try to understand what is happening in the field of tourism and look at the totality of each situation that I investigated separately. I used multiple methods of data collection in order to establish different views of the phenomena under study, which is tourism cluster formation in Thailand. By taking small samples and investigating them in depth and over a period of six months of time, this research fulfils the choice of the phenomenological approach to be the optimal strategy for this study.

3.3.2 Philosophical approach adopted in this study

To understand meanings and the significance participants put upon their behavior, I prefer the phenomenological approach to the main research questions because this approach assists in answering the ‘how’ and ‘why’ questions. As Yin (2009) states the “how” and “why” questions are more explanatory and likely to lead to the use of case studies, histories, and experiments as the preferred research method because such questions deal with operational links needing to be traced overtime, rather than mere frequencies or incidence.

The functions of qualitative research have been called descriptive or exploratory by other authors (Marshall and Rossman, 1999; Robson, 2002; Ritchie and Lewis, 2007) and indeed both are key features of context research. This study aims to explore and understand the UILs between the dynamic tourism cluster and its universities, since little is known about the relationship between Thai tourism and its universities. Thus I have explored and described participants’ understanding, and interpreted the social phenomena. To explore, the questions such as why this phenomena (tourism clusters) in the study occur, the forces and influences that drive tourism clusters to be created were asked. In addition, the integration of different perspectives from participants within the Thai tourism cluster generated a detailed in-depth understanding. Therefore the understanding needs to be holistic, comprehensive and contextualized

where no single perspective can provide a full account or explanation of the research issue (Ritchie and Lewis, 2007).

In reality, the tourism industry is dynamic and complex as Michael (2008) emphasizes, and tourism research is multidisciplinary by necessity since it must deal with the production of its related services, the location of its places, the psychology, marketing, the management and administration, the planning, the policy, and economic growth. Thus I have tried to understand what was happening by looking at the totality of this particular situation to develop an applicable model that suits Thai society through inductive strategy from the data. One more reason for using qualitative approaches is because this method has the flexibility to investigate the dynamic of how tourism clusters operate. Importantly, this method assisted me to understand the outcomes by identifying the factors that contribute to success of the linkages between Thai tourism clusters and its universities that arise from the competitiveness policy.

I did not use a positivist approach since a tourism cluster shares commonality, economic, social and resource assets so participants are interconnected. Thus the tourism cluster is socially constructed and subjective, so when we study problems we cannot understand the phenomena if they are reduced to the simplest elements. In addition, a positivism approach has the ability to describe economically features of large numbers but it cannot explain the ‘why’ questions or provide insight understanding.

There are different ways to undertake research such as grounded theory/observation/longitudinal approaches. But there are a number of reasons that I did not choose these ways. In terms of longitudinal research, even though it focuses on a small number of organisations it takes a long period of time to collect data. Since, I had a limited budget and little time, this approach was not appropriate to this study. I did not use experimental design because it is difficult to conduct in real life because the researcher cannot control the situation or participants within a tourism cluster.

3.4 Research Strategy

There are four strategies; the inductive, deductive, retroductive, and abductive, (Blaikie, 2008)

The inductive strategy starts with data collection, followed by data analysis, and then the development of generalizations that, with further testing, can become law-like propositions to be used to explain aspects of social life (Blaikie, 2008: 100). The deductive strategy begins with an observed regularity that needs to be explained; a tentative theory is required or constructed; then hypotheses are deduced and then tested by collecting appropriate data. The retroductive strategy also begins with an observed regularity, but this is followed by the construction of a hypothetical model of a possible structure or mechanism that could have produced this regularity. By observation and experiment, a search is then undertaken to establish whether the explanatory structure or mechanism exists. The abductive strategy begins by exploring through everyday language the knowledge that social actors use in the production, reproduction and interpretation of the phenomenon under investigation (Blaikie, 2008).

The major characteristics of the research strategies are as follows: the inductive strategy produces generalizations from data; the deductive strategy tests theories by testing hypotheses derived from them; the retroductive strategy proposes causal mechanisms or structures and tries to establish their existence; and the abductive strategy generates social scientific accounts from everyday accounts (Blaikie, 2008).

In this study, inductive strategy seems the most suitable strategy due to the context and accessibility of sources of data. Why I adopted this strategy, because: The research context is my homeland Thailand thus it is socially constructed and I am rather subjective as I collect and present the data. I am part of what I have been observing, as I cannot isolate myself from the context, neither can I be independent of the surrounding of the research context in the different parts of Thailand. This scientific study is driven by my human interest in getting better policy recommendations to make Thailand a better place to generate business activities and

thus better standard of living In my research I try to understand what is happening in the field of tourism and look at the totality of each situation that I investigated separately. I used multiple methods of data collection in order to establish different views of the phenomena under study which is tourism cluster formation in Thailand. By taking small samples and investigating them in depth and over a period of six months of time, this research fulfils the choice of the phenomenological approach to be the optimal strategy for this study

I adopted the inductive strategy as Blaikie (2008) explains that the inductive strategy starts with data collection, followed by data analysis, and then the development of generalizations that, with further testing, can become law-like propositions to be used to explain aspects of social life. I created a model applicable to improving University-Industry Linkages (UILs) in Thailand in order to support successful tourism clustering.

3.5 Research Design

In this section I describe choices that are particularly significant. Since I selected the phenomenological approach, it is not impossible for the researcher to remain independent from the phenomena being observed. In terms of theory and data, I looked at events or processes in the particular different four tourism clusters.

An overview of the ways in which research questions will be addressed is shown in the table 3.2 below:

Research Questions	Methods
1. What is the current nature and character of the tourism clusters and linkages between tourism clusters and their universities?	Interview academic (Dean/Head of tourism department, Chiang Mai University, Prince of Songkla University, Rajabat Sakon Nakhon University)
What is the nature and character of the tourism clusters and linkages between tourism clusters and their universities?	Interview practitioners, documentary and Archives: World Bank reports, TAT reports, NESDB reports, Cluster Mapping Project, universities' reports
What is the role of university toward the tourism cluster?	Interview academic (Dean/Head of tourism department, Chiang Mai University, Prince of Songkla University, Rajabat Sakon Nakhon University)
What are the attitudes of participants in tourism clusters towards the linkages?	Interview academic (Dean/Head of tourism department, Chiang Mai University, Prince of Songkla University, Rajabat Sakon Nakhon University, private sector (3 provinces))
2. What are the influential factors affecting the Thai tourism clusters?	Interview Director Marketing Research Division of TAT; Senior Official of NESDB; Senior Official of KIA Asia; private sector (3 provinces); documentary, Archives, newspaper's articles, Journal's articles, TAT reports, NESDB reports, website: www.unwto.org , and www.nesdb.go.th
How have external factors affected Thai tourism clusters?	Interview private sector (3 provinces), TAT Director; documentary, Archives, newspaper's articles, Journal's articles: TAT reports, NESDB reports; website: www.unwto.org , and www.nesdb.go.th
How have internal factors affected Thai tourism clusters?	Interview private sector (3 provinces)
3. How might University-Industry Linkages assist the success of tourism clusters?	Interview academic (Dean/Head of tourism department, Chiang Mai University, Prince of Songkla University, Rajabat Sakon Nakhon University,
What are the barriers of UILs between Thai tourism clusters and universities?	Interview private sector (3 provinces), academic (Dean/Head of tourism department, Chiang Mai University, Prince of Songkla University, Rajabat Sakon Nakhon University,
How to improve the UILs between Thai tourism and universities?	Interview academic (Dean/Head of tourism department, Chiang Mai University, Prince of Songkla University, Rajabat Sakon Nakhon University, Interview public and private sector (3 provinces),
How to enhance competitiveness of tourism cluster through UILs?	Interview academic (Dean/Head of tourism department, Chiang Mai University, Prince of Songkla University, Rajabat Sakon Nakhon University, TAT director, public and private sector (3 provinces))

Table 3.2 Overview of methodological approach; Source: Author

3.6 Methodological Approach

I use case studies to understand and explain the nature and characteristics of tourism clusters and University-Industry Linkages (UILs) between the Thai tourism cluster and its universities. A theoretical framework was developed describing how UILs can enhance the competitiveness of tourism clusters. I used mix methods to seek to develop a theory relating to the case studies.

As Michael (2008) emphasizes, tourism research is multidisciplinary by necessity since it must deal with the production of its related services, the location of its places, the psychology, marketing, the management and administration, the planning, the policy, and economic growth. I used case studies on the basis of their relevance to my research “how” and “why” questions. As Yin (2009) states “how” and “why” questions are more explanatory and likely to lead to the use of case studies, histories, and experiments as the preferred research method because such questions deal with operational links needing to be traced over time, rather than mere frequencies or incidence. He also argues that case studies provide the focus on a contemporary phenomenon within a real-life context. Within the mix of approaches, purposive sampling referred to as theoretical sampling, refers to who is interviewed or otherwise studied, and how they are chosen to help the research formulate theory (Robson, 2002). Thus, this study employed the qualitative method approach with a combination of documentation, archival records, and in-depth interviews. However, I preferred the case study to histories because it is used in order to examine contemporary events and I interviewed persons who are involved in the event. Contrasting with the case study, the historical method deals with the dead past, that is, when no relevant persons are alive to report, even retrospectively, what occurred. The investigator must therefore rely on primary documents, secondary documents, and cultural and physical artifacts as the main sources of evidence (Yin, 2009). As Kumar (2005) states, the case study method is an approach to studying a social phenomenon through analysis of an individual case. In previous UILs studied by Intarakumnerd and Schiller (2008) they used a questionnaire survey and the same questionnaire was used for many countries even though each country has a different type of university and different factors affecting its economic growth. Therefore, I used the in-depth interview for the intensive analysis of specific details overlooked by the previous study.

In brief, the case study method allowed me to retain the holistic and meaningful characteristics of real-life events of tourism cluster participants both in governmental and non-governmental bodies.

3.6.1 Stages of collecting data

I decided to collect data in two stages: a pilot case study and main case studies as follows:

Stage I: A Pilot Case Study: Ranong Health Tourism Cluster

I decided to conduct a pilot case study in the health tourism cluster at Ranong to help me plan main case studies, for several reasons. First of all, the pilot case study helped me refine the data collection plan for the main case studies. Secondly, I have contact networks that can assist in accessing participants from the Health Tourism Cluster. These participants would provide me with the feedback and advice to adjust my methods. Thirdly, I wanted to get a better understanding of the dynamic tourism industry.

A. Selection of the Pilot Case Study

Convenience and access were the main criteria for me to select the Ranong Health Tourism Cluster.

B. How to conduct the pilot case study

I was contacted by a long term friend who lives in Ranong Province. Her mother, Mrs. R, was the key gateway because she was local and an ancestor had lived there for a long time. I called to tell her when I would come. When it was the time, I took a bus ten hours to Bangkok and then took a bus for ten hours to Ranong.

C. Ranong Overview



Figure 3.1 Ranong map

Source: <http://thai.monoplanet.com/hotel-photos/ranong/andaman-club-ranong/pic1-map.jpg>

I learned from my interview with the Chairman of the Ranong Chamber of Commerce that in the past, Ranong had been a centre for tin mining. Besides, it was the first place in Thailand prior to Phuket that the Japanese selected for setting up a pearl farm. When the mines were closed, people set up a fishery, then forestry. In addition, its border is close to Burma so people trade with the Burmese. Even though Ranong is a small city, but most of people are relatively rich. Right now, people realize that all of their natural resources have reduced dramatically at the risk of their businesses. Thus they have started looking at tourism that once they used to ignore.

D. Ranong Health Tourism Cluster Formation

The National Economic and Social Development Board (NESDB) selected the Kenan Institute Asia, a Thai non-profit development organisation, to implement the NESDB's Cluster Mapping Project. As a result, the Ranong Health Tourism Cluster was established.

E. Current tourism situation

From the interview with the Secretary of Ranong Tourism Business Association, this year (2011) the number of tourists has increased by ten percent causing a rapid expansion of accommodation. The reason why tourists ignored Ranong in the past is the location. In addition, at that time, there was no flight from Bangkok to Ranong. From interviewing tourists, they said that time is important to them so that if they have to take too much time to travel to Ranong, they might change to another destination. Consequently, this makes Ranong tourism grow little by little. However, the trend of going back to nature and health caring made Ranong more interesting. Importantly, Ranong people would like to see their city grow in a sustainable way.

There is awareness of tourism from both public and private sectors. In addition there are several projects in this particular area such as the community of Suksamran that has never had a tourism plan and for the last ten years tourism activities in this area have been minimal. The SCL-USAID project recognized that with proper planning and management, tourism could be an important tool for poverty reduction and a better quality of life for the Suksamran community (The Asian Center for Tourism Planning and Poverty Reduction (ACTPPR, 2007).

F. Future of Ranong Tourism

The President of the Ranong Tourism Business Association stated that:

The future of Ranong tourism looks more prosperous than before because the government gives financial support such as infrastructure.

G. The reason why the cluster has declined

The Former President of the Ranong Chamber of Commerce told me that the reason why the Ranong Health Tourism Cluster failed was due to the structure of the cluster. The structure of the cluster was wrong. The chairman of the tourism cluster should have been the president of the Tourism Business Association instead of the

president of the Chamber of Commerce. A meeting was called and the cluster was established that same day. The Chief of city clerk (Tourism) said:

It was expected that funds would come from municipal government thus I was as pointed as the cluster treasurer.

In terms of cooperation, the Director of the Tourism Authority of Thailand (TAT): Region11 said:

The key success factor of cluster is cooperation, but it is very difficult to achieve. TAT's roles are to facilitate and promote tourism.

The cluster lacked a person who coordinated all the parties. Entrepreneurs felt lonely and isolated from the government agent. They were very happy when I contacted them. They did not know how to start a relationship with the local university. They did not know the channel to contact. In Thailand, people in the countryside feel lecturers are a higher status so they respect them and are afraid to make contact with them. They do not know how to contact university staff.

In addition, in terms of shared value/commitment and trust, members did not have the feeling of belonging and did not have shared values. Besides, they did not trust each other. Also, the province lacked promotion from the public sector.

In terms of human resources, there is low cost labor available from Burma. As the President of Ranong Chamber Commerce put it:

Most of our Thai entrepreneurs hire Burmese labour because the cost of labour is cheap. However the problem is that Burmese labours change their jobs easily if new employers give more money. Thus entrepreneurs cannot plan their business well. Consequently, Ranong faces difficulty with skilled employees.

In addition, the province lacked human resources planning in both the short and long term in all industries especially in the service industry. From the interview with the Secretary of Tourism Business Association, Ranong entrepreneurs made their wealth from tin mining and fisheries. When they started doing business in the service

industry, they did not have any service-minded experience, and did not know how to serve tourists.

Interviewees
<p>Public sector: 3 Interviews</p> <p>1.District Director of TAT:Region11</p> <p>2. Tourist Information Center</p> <p>3. Chief of City Clerk (Tourism)</p> <p>Private sector: 8 Interviews</p> <p>4.Chairman of Health Tourism Cluster and Former Chairman of Ranong Chamber of Commerce</p> <p>5.Chairman of Tourism Business Association</p> <p>6. Secretary of Tourism Business Association</p> <p>7.Chairman of Ranong Chamber of Commerce</p> <p>8. Siam Hot Spa manager</p> <p>9. Adventure-Khao Nabghong Resort and Spa</p> <p>10.transportation/tour operator- Ponplace</p> <p>11.Restaurant- J and K</p> <p>Public sector: 3 Interviews</p> <p>12..Senior official at Ranong Hospital</p> <p>13.Senior official of Health Department Educational Institute</p> <p>14.Director of Community college</p> <p>Tourists: 8 interviews</p>
Total 22

Table 3.3 List of participants at Ranong Province
Sources: Author

H. Problems that I experienced at Ranong

- a) Some participants were not named on the list of the Health Tourism Cluster but they were committee members of the cluster and attended the cluster meeting and training.
- b) The weather - Ranong is known for eight months of rain and four months of sunshine a year. Sometimes I drove motorbike through the rain arriving 20

minutes late to meet the Chairman of Ranongi Chamber of Commerce but luckily, they could reroute to interview at his home.

- c) Time management- I took too much time for each person- initially two hours per interview.
- d) I had to be flexible at all times. For example, taking advantage of a potential interviewee's private visit to an event, requesting a mutual professional acquaintance to negotiate access directly after this event, thus avoiding a six hours round trip on the bus. A lift was also provided and the driver waited for the researcher as it was not safe to collect data alone when not known to local people. Such considerations and accommodations have to be anticipated.
- e) Interview guide. At first, because I wanted the interview to seem natural, I did not bring the interview guide. I let them talk and forgot some of the questions. From then on, I tried to use the interview guide during interviews. However, it was not easy because most of the interviewees wanted to express their opinions first which took at least 30 minutes.

The key gatekeeper knew the interviewees very well. The first day I was taken to meet the President of the Ranong Tourism Association but he had left the city; his wife gave me some general information about the city and her family, and fortunately cooked a local meal for me as all shops were closed due to a festival. On the second day, the niece who works at municipality took me to interview the head of tourism municipality.

I. What I learnt from the pilot case that helped me in collecting data for the main case studies

- a) To observe different phenomena from many different angles (Yin, 2009)
- b) To adjust time, I must be flexible. Let the interviewees expressed their feelings and then make them feel relaxed and free to answer questions. So I cannot be rushed and must be patient. It takes time to ask questions the right way.

- c) I checked the place. Some places took more than one hour to reach. In addition, in terms of places to interview, I had limited choice. So in most places I interviewed where the interviewees worked.
- d) I must be ready all the time. Also, my dress must be suitable for the place and I must be prompt when meeting busy people such as the Director of the Tourism Authority of Thailand: Region 11 who had come to Ranong for eagle - watching and told me to meet him in the evening. Even though it was the evening, I must dress appropriately because in Thai culture, you must show respect to the person who has a high position in a Government body.
- e) I must prepare several recorders in case I have to interview several interviewees.
- f) Questions. It is difficult to ask all the questions I prepared.
- g) The atmosphere can be annoying for the interview- noise from traffic and TVs left on.
- h) The interviewees were afraid that researchers would disappear.
- i) Content – understand the current phenomenon, cluster mapping, and what had happened, why the cluster had failed, who were the participants.
- j) To adjust questions.
- k) Besides the participants of the cluster, I interviewed both Thai and foreign tourists, I interviewed at Hot Springs and at the travel agent shop.
- l) As Yin (2009) stated the pilot data provided considerable insight into the basic issues being studied. This information was used in parallel with my ongoing review of the relevant literature, so that the final research design was informed both by prevailing theories and by a fresh set of empirical observations. The dual sources of information help to ensure that the actual study reflected significant theoretical or policy issues as well as questions relevant to contemporary cases.

Stage II: Main Case Studies

Because little is known about the UILs between Thai tourism clusters universities and so an exploratory study is appropriate at the preliminary stage of this project. The method of in-depth interviewing was used. There are many objectives of an exploratory study; the first one is to explore the attitudes of participants in tourism clusters towards the UILs. Secondly, to unpack factors affecting Thai tourisms clusters. Thirdly, it is necessary to reveal the barriers of UILs between Thai tourism clusters and its universities.

Interviewees
Ministry of Tourism and Sports (MOTS) 1. Permanent Secretary
National Economic and Social Development Board (NESDB) 2. Former Director of Strategy Formulation and coordination 3. Senior plan and policy Analyst
Kenan Asia (KIAAsia) 4. Manger, Business Advisory Services
Tourism Authority of Thailand (TAT) 5. Director of Research and Marketing Division of TAT
Office of Small and Medium Enterprises Promotion (OSMEP) 6. Senior Operational Officer, Level 2 Competitiveness Project Division, Project Administration and Coordination Bureau
7. Rachaburi Orchid Cluster President
Total = 7

Table 3.4 Interviews at National level
Source: Author

The map below (Fig 3.2) shows where the pilot case study and main case studies in Thailand are:



Figure 3.2 Main case studies

Source: <http://aseancorner.blogspot.com/2012/05/thailand-and-its-neighbouring-countries.html>

There are four main case studies as follow:

A. Chiang Mai Tourism Cluster

Thailand's second most important city, Chiang Mai (literally 'new city'), was chosen in 1292 by King Mengrai to replace Chiang Rai as the capital of his Lanna (Eyewitness Travel, 2008). For decades visitors have increasingly been attracted to Chiang Mai not only for its amazing temples but also for trekking in this beautiful landscape, fascinating hill-tribe village and plentiful cultural attractions (Eyewitness Travel, 2008).

Interviewees
Public Sector: 2 Interviews 1. Director of Tourism Authority of Thailand: Chiang Mai Office 2. Deputy Director of Chiang Mai Provincial Office of Tourism and Sports
Private Sector: 9 Interviews Private Association 1. Vice-President of Tourism Business Association 2. President of Hotel de Charm Cluster Hotel de charm 1. Hotel- MD of Baan Num Ping-Nahathai Tangkittivitukul 2. MD of Sukantara 3. Spa-CEO of Chida Spa- 4. Adventure- MD of Peak Adventure Tour 5. Transportation/tour operator- Manger of Jatuporn Tour and Travel 6. Restaurant-Assist restaurant Manager of Crystal Restaurant- Edutainment Cluster 1. President of The Association of Northern Tourism Federation Chiang Mai (ANTFED.CM)
University: 7 Interviews Payap University 1. Assistant Dean of Business Administration, Payap University- Chiang Mai University 2. Chief of Tourism Department, Chiang Mai University 3. Assoc.Professor in tourism, Tourism Department, Chiang Mai University 4. Dean of College of Arts, Media and Technology (CAMT) 5. Director of knowledge and Innovation Center- Chiang Mai Rajabhat University 6. Head of Tourism and Hotel Department, Chiang Mai Rajabhat University Rajamangala University of Technology Lanna 7. Senior lecturer
Tourists 8 interviews
Total 26 Interviews

Table 3.5 List of participants at Chiang Mai; Source: Author

The cluster mapping project analyzed with Porter's diamond model by KIAAsia (2006) found that the Chiang Mai tourism cluster is at the stage of seeking direction which means it has good opportunities for its products; however, it lacks knowledge in marketing and in managing its product effectively.

B. Phuket Tourism Cluster

Phuket is the primary beach tourism destination in Southeast Asia, having overtaken Bali, Indonesia, some years ago, attracting approximately three million tourists per year. Phuket province is increasingly built-up, nearing its carrying capacity for high quality amenity development (Webster, 2006). The outstanding natural beauty of the Andaman Coast is known the world over and the biggest draw in the region is Phuket, a resort island, which has superb beaches, excellent diving facilities, and the most developed tourist infrastructure in Southern Thailand (Eyewitness Travel, 2008).

Interviewees
University: 8 Interviews Prince Songkha University <ol style="list-style-type: none"> 1. Dean of Hospitality and Tourism Faculty 2. Deputy Dean-Academic 3. Deputy Dean-Student Affairs 4. Tourism lecturer 5. Hotel lecturer Rajabhat Phuket University <ol style="list-style-type: none"> 1. Dean of Management Faculty 2. Director of Research and Development Institute 3. Deputy of Research and Development Institute / tourism lecturer
Private sector: 7 Interviews <ol style="list-style-type: none"> 1. President of Tourist Association- 2. President of Thai Hotels Association Southern Chapter 3. On behalf of President of Phuket Chamber of Commerce-Tourism 4. Chairman of Phuket Taxi Cooperative 5. Tour Operator-MD of Exotic Sea Venture Tour 6. President of Phuket Spa Association 7. The Old Town Community Leader
Public Sector: 4 Interviews <ol style="list-style-type: none"> 1. Director of Tourism Authority of Thailand: Phuket office 2. Director Phuket Provincial office of Tourism and Sports- 3. Senior Policy and Planning office/ Strategic Management for Southern Province Cluster (Andaman) 4. Phuket Mayor
Total = 19 Interviews

Table 3.6 List of participants at Phuket; Source: Author

According to Webster (2006), Phuket has poor co-ordination among key stakeholders in the tourist industry, and between government and the tourism sector, especially in Phuket province. The result is fragmented investment, a lack of catalytic projects, such as a major Convention Center, and the lack of a clear vision and strategy for Phuket's future development

From the same model, the Phuket cluster is at the stage of formation/initiation which means that across the cluster, members have loose linkages, but no obvious leadership and ill-defined customers and differentiation of products or services, so competition is largely based on price.

C. Sakon Nakhon Indigo Textile Cluster

The main attractions of this town are its peace and quiet and its location in a particularly lush part of Mekong River valley (Eyewitness Travel, 2008).

From the same model, Sakon Nakhon's cluster is at the stage of seeking direction which implies good market demand and market opportunity for its products and services. But this cluster has difficulty in accessing its market due to lack of knowledge in marketing or managing its products effectively.

Each place has its own identity that can develop to be tourism attraction. In Sakon Nakhon, an indigo clothes dyeing is the local knowledge pass from generation to generation. It presents the way of local farmers' life including ritual. Consequently, Sakon Nakhon Indigo Textile Cluster can develop to be the learning centre and tourism attraction.

Interviewees	
Public sector: 7 Interviews 1. Vice Governor 2. President of Sakon Nakhon Province Administration Office 3. Director of Tourism and Sport 4. Director, office of Commercial Affair 5. Director of Tourism Authority of Thailand: Northeastern: Nakon Phanom 6. Director of Cooperative: Sakon Nakhon office 7. Senior Community Development official 8. Head of Industry Promotion Northeast region	
Private sector: 6 Interviews 1. Former director of Sakon Nakhon Chamber Commerce 2. President of Indigo Cooperative Cluster 3. President of Garment Cluster 4. Cluster Development Agent (CDA) of Garment Cluster 5. Chairman of Panna Indigo group 6. Chairman of Tumtao Indigo group	
University: 9 Interviews Kasetsart University 1. KU-CSC Assistant President 2. Director of Research Institute 3. Deputy Director of Research Institute 4. Chief of Marketing Department 5. Chef of Tourism Department 6. Dean of Liberal Arts and Management Science Sakon Nakhon Rajabhat University 1. Former Vice President 2. Former dean of Science & Technology Faculty Sakon Nakhon Rajamongkol University 1. Former President of Sakon Nakhon Rajamongkol University	
Total=22	

Table 3.7 List of participants at Sakon Nakhon
Source: Author

3.7 Strategy of Inquiry

I used mixed methods: in-depth interviews and documents. There are good reasons for using several different methods in the same study (Easterby-Smith *et al.*, 1996). Furthermore, they claimed in Abrahamson's work (1983) that this approach prevents the research becoming method-bound: the strength of almost every measure is flawed in some way or other, and therefore research designs and strategies can be offset by counterbalancing strengths from one to another.

3.7.1 Case Studies

Case studies are suitable for single-person research on a limited budget, and the study of one case provides a manageable opportunity for a researcher to study one aspect of a problem in some depth within a limited time-scale (e.g. Bell, 1993; Blaikie 2008; Blaxter *et al.*, 1996). In addition, I used case studies designed to understand and explain the nature and character of university-Industry Linkages (UILs) between Thai tourism clusters and its universities. A theoretical framework was developed with a mixed approach. A case study would have to cover both the phenomenon of interest and its context, yield a large number of potentially relevant variables, and in turn, this would require an impossibly large number of cases - too large to allow any statistical consideration of the relevant variables (Yin, 2009). Thus, I conducted this study by interviewing policy makers at national level and local levels, deans, and lecturers who were involved with clusters in universities, and participants in the private sector across tourism clusters in three regions in Thailand (see Tables 3.4; 3.5; 3.6; 3.7).

There are two reasons why I selected a multiple-case design rather than a single-case study. The first reason is that I wanted a high degree of certainty as Herriott and Firestone (1983), and Yin (2009:53) state the evidence from multiple cases is often considered more compelling, and the overall study is therefore regarded as being more robust. The other reason is the replication logic is analogous to that used in multiple experiments (Hersen and Barlow, 1976). Also, Yin (2009) emphasises that the logic underlying the use of multiple-case studies is the same; if the cases are some way contradictory, the initial proposition must be revised and retested with another set of cases. An important step in all of these replication procedures is the development of a rich, theoretical framework (Yin, 2009).

As all cases necessarily occur in a specific context, the common and unique feature of that context needs to be acknowledged, and thus, researchers need to give readers a sufficient account of the context to enable them to evaluate the conclusions.

Nevertheless, I used models of UILs (see Table 3.8) developed by Baba (1985) in this study.

Modality group	Type of linkage activity
<ul style="list-style-type: none"> - Training/education - Industrial training - Entrepreneurship - Visiting lectureship 	<ul style="list-style-type: none"> - Cooperative education
<ul style="list-style-type: none"> - Service/consulting - Technology brokerage/licensing - Business consulting/services - Direct or indirect investments - Coordination of technology-related issues 	<ul style="list-style-type: none"> - industrial extension service
<ul style="list-style-type: none"> - Research - Joint or cooperative research projects - Partnership contact - Personnel interchange or industrial fellowships - Shared equipment or facilities 	<ul style="list-style-type: none"> - Research consulting

Table 3.8 Models of University-Industry Linkages in Thailand
Source; Adapted from Baba (1985, 1988); Brimble and Doner (2007).

3.7.2 Process Building Theory from Case Study Research

Guided by Eisenhardt (1989), Process Building Theory from Case Study Research as illustrated in Table 3.9, I adopted this technique in constructing my research development progression. This is explained in the forthcoming section following the steps of Eisenhardt (1989), and relating it to my research methodology.

A. Getting Started

According to an initial definition of the research question, in at least broad terms, is important in building theory from case studies. No matter how small our sample or what our interest, we have always tried to go into organisations with a well-defined focus—to collect specific kinds of data systematically. (Eisenhardt, 1989; Mintzberg, 1979) Such definition of a research question within a broad topic permitted these investigators to specify the kind of organisation to be approached, and, once there, the kind of data to be gathered (Eisenhardt, 1989).

I started with initial definition of a research question in terms of University-Industry Linkages (UILs) toward tourism clusters. Such definition of the research question permitted me to specify the kind of organisation to be approached: the public and private sector and university in relation to tourism clusters.

Step	Activity	Reason
A. Getting Started	Definition of research question Possibly a priori constructs	Provides better grounding of construct measures
B. Selecting Cases	Theoretical Sampling	Focuses efforts on theoretically useful cases—those that extend theory by filling conceptual categories
C. Creating Instrument and Protocols	Multiple Data Collecting Method	Strengthen grounding the theory by Triangulation of evidence
D. Entering the field	Overlap data collection and analysis, including field notes Flexible and opportunistic data collection Methods	Adjustments to data collection
E. Presenting Data	Iterative tabulation of evidence for each construct.	Gains familiarity with data and preliminary theory generation
F. Within case analysing	Within case analyzing Cross case pattern Logic across cases Search evidence for "why" behind the relationships	Sharpens construct definition, validity, and measurability Confirms, extends, and sharpens theory Builds internal validity
G. Cross case pattern	Logic across cases Comparison with conflict literature Comparison with similar literature	Builds internal validity, raises theoretical level, and sharpens construct definitions. Sharpens generalizability, improves construct definition, and raises theoretical level

Table 3.9 Process Building Theory from Case Studies Research

Source: adopted from Eisenhardt (1989)

A priori specification of constructs can also help to shape the initial design of theory building research. Although this type of specification is not common in theory-building studies to date, it is valuable because it permits researchers to measure constructs more accurately. If these constructs prove important as the study progresses, then researchers have a firmer empirical grounding for the emergent theory (Eisenhardt, 1989).

In this study, I identified several potentially important constructs from the literature such as cluster formation, strategy, vision, policy on clusters including interaction on the Triple Helix. These constructs were explicitly measured in the interview guide. When these constructs were developed relating to clusters and Triple Helix, there were triangulated measures to ground the emergent theory.

B. Sampling: Selecting cases

Selection of cases is an important aspect of building theory from case studies. As in hypothesis-testing research, the concept of a population is crucial, because the population defines the set of entities from which the research sample is to be drawn. Also, selection of an appropriate population controls extraneous variation and helps to define the limits for generalizing the findings. However, the sampling of cases from the chosen population is unusual when building theory from case studies. Such research relies on theoretical sampling (i.e., cases are chosen for theoretical, not statistical, reasons (Glaser and Strauss, 1967).

As Pettigrew (1988) notes, given the limited number of cases which can usually be studied, it makes sense to choose cases such as extreme situations and polar types in which the process of interest is "transparently observable." Thus, the goal of theoretical sampling is to choose cases that are likely to replicate or extend the emergent theory (Eisenhardt, 1989).

Several studies illustrate theoretical sampling. Harris and Sutton (1986), for example, were interested in the parting ceremonies of dying organisations. In order to build a model applicable across organisation types, these researchers purposefully selected diverse organisations from a population of dying organisations. They chose eight organisations, filling each of four categories: private, dependent; private, independent; public, dependent; and public, independent. The sample was not random, but reflected the selection of specific cases to extend the theory to a broad range of organisations. Multiple cases within each category allowed findings to be replicated within categories. Gersick (1988) followed a similar strategy of diverse sampling in order to enhance the generalisability of her model of group development.

In the Warwick study (Pettigrew, 1988), the investigators also followed a deliberate, theoretical sampling plan. Within each of four markets, they chose polar types: one case of clearly successful firm performance and one unsuccessful case. This sampling plan was designed to build theories of success and failure. Finally, the Eisenhardt and Bourgeois (1988) study of the politics of strategic decision making illustrates theoretical sampling during the course of research. A theory linking the centralization of power to the use of politics in top management teams was built and then extended to consider the effects of changing team composition by adding two cases, in which the executive teams changed, to the first six, in which there was no change. This tactic allowed the initial framework to be extended to include the dynamic effects of changing team composition.

How big should the sample be? There is no easy answer to this question, as many factors have to be considered (Blaikie, 2008: p.206). When a research project involves the use of time-intensive, in - depth methods, particularly when directed towards theory development, the issue of sample size takes on a very different complexion (Blaikie, 2008).

In this study, the cases were chosen from the polar types. The choice is limited since out of 152 clusters only 60 clusters had been selected because they have information. As Yin (2009) suggests, although all designs can lead to successful case studies, when you have the choice and resources, multiple-case designs may be preferred over single-case design, more important, the analytic benefits from having two (or more) cases may be substantial. Since I wanted a high degree of certainty, I selected each one tourism cluster in each region. Thus, I selected four clusters from three regions and one cluster from the Northeast that will develop into cultural tourism cluster. For the purposes of comparison between regions, I chose one from each region; one from the north-Chiang Mai; one from the south-Phuket; one from the north-east - Sakon Nakhon. To assist in identifying the sampling frame, the resource used to short list firms/organisations from clusters was selected from the Cluster Mapping Project by the Kenan Institute Asia (KIASia) which was hired by the National Economic and Social Development Board (NESDB).

C. Creating Instrument and Protocols

A. Introduction to the Case Study
➤ Theoretical framework for the case study
B. Data Collection Procedures
➤ Name of site to be visited
➤ Data collection plan
➤ Expected preparation prior to site visits
C. Outline of Case Studies Report
D. Case Study Questions

Table 3.10 Contents of protocol for conducting case studies of UILs toward Thai tourism clusters; Source: Adjusted from Yin (2009)

Data Sources

This study combined multiple data collection methods: interviews, observations, and archives. The rationale is the same as in hypothesis-testing research (Eisenhardt 1989). That is, the triangulation made possible by multiple data collection methods provides stronger substantiation of constructs and hypotheses (Eisenhardt 1989).

a) Documentation

I used documents such as progress reports from a government agency called competitiveness center; documents from this center will be very helpful because they contain the list or name of clusters across country that I have to mention in the research. The website www.unwto.org, www.tourismthailand.org / and www.nesdb.go.th were used.

Sources	Author
TCI	USAID
Tourism development planning 2009-2012	MOTS
Tourism development planning 2012-2016	
TAT Annual reports	TAT
The 11 th National Plan/ NESDB reports	The National Economic and Social Development Board
Cluster mapping project/TCI	Kenan Institute Asia
Sakon Nakhon Provincial Pan 2009-2012	Sakon Nakhon Provincial Office
Andaman Cluster Plan	OSM Andaman

Table 3.11 Documented sources used; Sources: Author

In addition, archival records such as the cluster mapping project by KIAAsia was used as it provided the findings from Thai cluster analysis using Porter's Diamond model for its analysis of the competitiveness of clusters in Thailand

b) In-depth Interviews

The main reason for conducting qualitative interviews was to understand how individuals construct the meaning and significance of their situations from the complex personal framework of beliefs and values, which they have developed over their lives in order to help explain and predict events in their world (Easterby-Smith *et al*, 1996). To achieve this goal, researchers need to be able to understand interviewees' view and must be capable of encouraging interviewees to explore their beliefs. It is time consuming so if researchers need simple answers, they should use questionnaires instead. But for interviewing, the questions make the interviewees think. Besides, researchers can observe non-verbal clues such as voices, facial expression, gesture, and clothes. These can assist researchers develop further questions. In terms of the degree of structure, to be successful in interviewing Easterby-Smith *et al* (1996) and Jones (1985) point out that there is no such thing as presupposition-less research. In preparing for interviews researchers will have, and should have, some broad questions in mind, and the more interviews they do, and the more patterns they see in the data, the more likely they are to use this 'grounded' understanding to want to explore in certain directions rather than others.

However it does not mean that researchers should let the interviewees talk freely without interruption because this can lead to no clear direction in the interviewees' mind. Consequently, it creates poor data that interviewers cannot interpret. Thus I prepared an interview guide generated from a framework that can be used as a structure of the research questions. Therefore it was important for me to have a framework at the beginning that lent clarity to the areas that I wanted to study.

The skills of interviewers are important, they should have the ability to realize what is relevant to the research questions and tape and transcribe it. In addition, they

should know about the non-verbal language such as gestures, eye contact, facial expressions and so on. These clues assist interviewers to understand situations. Importantly, they should summarize by checking that interviewers correctly interpret what the interviewees say.

I understood that building trust takes time. I could not push interviewees to answer all the questions in one interview. The way to overcome this problem was by doing a pilot case. In terms of social interaction, the way interviewers dress can make a difference because interviewees gain the first impression that can or cannot lead to trust and so provide the crucial data. Or the ways interviewees dress, and manner, the voice and language they use can create a biased attitude to interviewers. Richard recalls one interview when the union convenor wore a sports jacket, in complete contrast to the other men who wore overalls and boots; as a result, this raised questions about the convenor's relationship with the men and management (Easterby-Smith *et al*, 1996). I wore a proper dress to show respect to the interviewees and the place, for example, when I went to interview the mayor at her office even though it was in the evening.

In terms of trust: to obtain trust is very important in qualitative interviewing. If the interviewees do not trust the interviewer but cannot refuse, they will try to finish the interview as soon as possible and may not provide crucial data. However, the reputation of the university I have worked for and the status of my experience as the assistant to the dean of Liberal Arts and Management Sciences for Kasetsart University helped me to build a high level of trust in the interviewees' minds. Most interviewees wanted to continue cooperation in future from connections and from the research.

Before I began to collect data, I looked at the available data on tourism clusters and contacted the gatekeeper. For the pilot case, I made a phone call to the gatekeeper, with the right contacts, so that I could gain access to key informants. For the main case studies, I sent letters and then followed up by a telephone call. In Thailand, the way to work with a government agency and with private organisations can be by both formal and informal contacts. It depends on the informants' styles. For example,

the NESDB senior official uses an informal style to contact governmental and non-governmental bodies. However, I used a formal letter from the university because this way created more credibility - especially given the letters are from a public university. Easterby-Smith *et al* (1996) suggests one strategy used by a colleague of ours, which worked to his advantage, which was to interview well away from the work place. The location of interviewing is one of the important factors. Some interviewees used a meeting room but some let me interview them at their workplace.

In terms of tape recording, at first I thought that Thai people might feel anxious about being recorded. But when I did the fieldwork, I found they were willing to be recorded. In in-depth interviewing, I used open questions and probing questions to follow on. I used the basic probe to repeat the question if they were off the point, or I asked the question ‘What did you mean by that?’ if the answer was not complete. Or I used silent probes when interviewees were slow to answer.

Data was collected by in-depth interviews over a period of six months from October 2010 to April 2011. I interviewed three groups; 1) Public sector at national and local level 2) universities’ participants 3) private sector participants. Each interview took about one-two hours and was tape-recorded.

In the interview stage, I used an interview guide (Figure 3.12) by introducing the brief in which I defined University-Industry Linkages and the competitiveness of tourism clusters and explained the purpose of my study and posed direct questions to interviewees. At the end of an interview, I asked participants for their comment or if they had some questions. The guide’s topics are as follows;

c) Interview guide

Each interview was conducted face-to-face. Interviews with participants tended to be semi-structured, guided by a prepared list of issues in three groups.

Private Sector

1. In your opinion, what is the tourism cluster? When and why your firm participate the cluster?
2. Who made decisions to participate?
3. What factors affected decision?
4. In your opinion, what factors affect the tourism industry and your firm?
5. Do you have a firm's policy about cluster?
6. What are expectations do you have from cluster?
7. Which university that your firm collaborates with?
8. How far does your firm collaborate with university?

Universities

1. What is the policy about supporting tourism industry?
2. What kind of programme do the universities have to support the tourism cluster?
3. Does the university have any internship or cooperative programme to develop?
4. Does the university have consultancy to tourism cluster?
5. Does the university have incubation project to support tourism cluster?
6. How does the university cooperate with the tourism cluster?
7. In your opinion, how can the university support the cluster to be successful?

Public Sector

1. Please explain the reason why the government establishes the cluster?
2. What is the expectation that the government has?
3. Please explain the current situation of Thai tourism cluster?
4. How the government support Thai tourism cluster?
5. What are the barriers prevent the cluster to be successful?
6. How can the government overcome these problems?

Table 3.12 A template of issue; Source: Author

Before I conducted the interviews according to the above guide, I also collected data about the general characteristics of the different entities that were investigated. This is illustrated in the list shown below:

- Cluster coordinator
 - Birth of this cluster-how/why? Who is the coordinator?
 - Vision/ Mission/Goals/ Shared value/Policy
 - Participants? Role? Expectations?
 - Supportive institutes?
 - Outcomes?
 - Barriers? How to overcome problems?
- Universities
 - The university's policy and infrastructure-ready to support?
 - Who takes responsibility of dealing with cluster
 - Attitudes towards the cluster

- How can a university support the clusters?
- Mechanics/ tools
- The university's functions
 - Graduates
 - Research
 - Academic services
- The relationship with tourism firms
- How to follow up and evaluate performance/ coordination between UILs
- Firms
 - The firm's policy
 - Development and innovation
 - The relationship with universities
- Government
 - Policy
 - Competitiveness
 - Cluster Establishing
 - Support
 - Direct
 - Indirect

Regarding the interview guide for the universities, I asked for advice from my supervisor and after that I carried out the pilot case study.

D. Entering the field

Because I have worked for a university in Thailand, I had an opportunity to visit and meet professors from other universities such as Prince of Songkla University. This connection facilitated access to some participants for this study.

a) Access to Case

A striking feature of research for building theory from case studies is the frequent overlap of data analysis with data collection. For example, Glaser and Strauss (1967) argue for joint collection, coding, and analysis of data. While many researchers do not achieve this degree of overlap, most maintain some overlap. Field notes, a running commentary to one self and/or research team, are an important means of accomplishing this overlap. As described by Van Maanen (1988), field notes are an on-going stream-of-consciousness commentary about what is happening in the research, involving both observation and analysis—preferably separated from one another. One key to useful field notes is to write down whatever impressions occur, that is, to react rather than to sift out what may seem important, because it is often difficult to know what will and will not be useful in the future. A second key to successful field notes is to push thinking in these notes by asking questions such as "What am I learning?" and "How does this case differ from the last?" For example, Burgelman (1983) kept extensive idea booklets to record his on-going thoughts in a study of internal corporate venturing. These ideas can be cross-case comparisons, hunches about relationships, anecdotes, and informal observations. Indeed, a key feature of theory-building case research is the freedom to make adjustments during the data collection process (Eisenhardt 1989).

These transition point behaviours had unexpectedly proved interesting, and Gersick (1988) added cases in order to focus more closely on the transition period. Additional adjustments can be made to data collection instruments, such as the addition of questions to an interview protocol or questions to a questionnaire (e.g., Harris and Sutton, 1986). These adjustments allow the researcher to probe emergent themes or to take advantage of special opportunities that may be present in a given situation. In other situations adjustments can include the addition of data sources in selected cases. For example, Sutton and Callahan (1987) added observational evidence for one case when the opportunity to attend creditors' meetings arose, and Burgelman (1983) added interviews with individuals whose importance became clear during data collection. Leonard - Barton (1988) went even further by adding several

experiments to probe her emergent theory in a study of the implementation of technical innovations.

According to Whyte (1984), the entry process differs according to whether one studies a formal organisation or a community. The organisation has official gatekeepers who control access. The community has unofficial gatekeepers who can either facilitate entry and encourage access to information or see to it that the researcher never penetrates beyond superficial acquaintance and formal portrait of themselves that the people would like to give to the outside world.

b) Access to the pilot case

In this study, I did the pilot case study at Ranong I realized that in each case, the gatekeepers are very important because they provide the useful contacts so that I could access key persons such as those in Ranong, the gate keeper took me to meet the president of TBA and the president of Ranong Chamber of Commerce and senior official at the public sector without making an appointment. And because they trust and respected my contact, they spoke openly to me. Besides the president of TBA gave me the list and mobile phone numbers of the persons I should interview such as the former chairman of the Chamber of Commerce, the Director of TAT; Region 11 and the Director of the Community College. Then I had a chance to interview the Former President of the Chamber of Commerce who was the President of the Ranong Health Tourism Cluster and she told me that why the cluster was not successful. In addition, my contact gave me the list of people that I should interview senior official at hospital and Health Care Department because they were involved with the cluster.

c) Access to the main cases

On main cases, I used both informal and formal way. For formal way, I sent formal letters to make an appointment in advance and followed up by calling. I had gatekeepers both in the public and private sector and universities. Some interviewees are in public sector so they want formal letter. For example, Tourism Department at Chiang Mai University, I sent formal letter in advance for two weeks and followed up to make an appointment which took about two weeks.

E. Data Presentation and Analyzing Data

As Miles and Huberman (1984) wrote: "One cannot ordinarily follow how a researcher got from 3600 pages of field notes to the final conclusions, sprinkled with vivid quotes though they may be." However, several key features of analysis can be identified. One key step is within-case analysis. The importance of within-case analysis is driven by one of the realities of case study research: a staggering volume of data (Eisenhardt 1989). So I would like to make the reader acquainted with my detailed findings and to provide a platform for answers to the set of research questions. In addition, analysing data is the heart of building theory from case studies, but it is both the most difficult and the least codified part of the process (Eisenhardt 1989).

F. Within-case analyzing

Within-case analysis typically involves detailed case study write-ups for each site. These write-ups are often simply pure descriptions, but they are central to the generation of insight (Gersick, 1988; Pettigrew, 1988) because they help researchers to cope early in the analysis process with the often enormous volume of data. However, there is no standard format for such analysis.

For this study, I conducted face to face interview with 80 interviewees. Consequently, there was the huge chunk of data. So I used within-case analysis to help organise the data. After doing transcripts and translation, Mindmap was created which is the diagram to outline different themes from empirical data. Themes were guided by the conceptual framework and literature. I sifted cases into two levels: at the national and local levels. At local level, Mindmaps was be produced in each case by using the same theme. Themes cover the cluster formation, roles of actors, strategy, policy and implementation, successful and unsuccessful cluster, challenges, barriers and key success factors. Then data was be presents in each theme in a tabular format. In addition, I did the cluster mapping at national level and local level for each case to show how participants interact to each other.

G. Cross case pattern

Coupled with within-case analysis is cross case search for patterns. The tactics here are driven by the reality that people are notoriously poor processors of information (Eisenhardt 1989). One tactic is to select categories or dimensions, and then to look for within-group similarities coupled with intergroup differences (Eisenhardt 1989).

In order to achieve the first objective of this study: to investigate the nature and character of linkages between tourism clusters and universities, I presented the empirical and secondary data by using across case comparison in the tabular format. I selected significant themes to answer the research questions ‘Why clusters succeed or decline?’ These themes were classified as three themes: characteristics, challenges, cluster development. In each theme, I used key words to demonstrate each case. However, there are several keywords in each table. So I selected the significant case to explain. For example, in the ‘weaknesses theme’, I used the key word ‘organize and sell same things. Then I explained the keyword as follows: Like Phuket, Trung, Ranong who have organized the same event (a vegetable eating festival) at the same time. Next I demonstrated the empirical data in quotation form as follows:

As the Director of Research Division of Tourism, TAT expressed:

Thailand is famous for its floating market. The problem is that they are all the same. When something is successful everyone copies it. But each of the copies should be different. Unfortunately, people do not see that each floating market should have its own identity. It is the same with the Vegetarian Festival. They should all be different and held at different times. The planners need to consult each other before organizing any event.

All these in order to answer the first objective were presented in chapter five.

For chapter six, in order to undertake the second objective: examine the possible model applicable to improving University – Industry Linkages (UILs) in Thailand in order to enhance competitiveness of tourism clustering, I discussed and analysed empirical and secondary data by using across case comparison in tabular format. I selected significant themes to answer the research questions “How to improve the university-Industry-Linkages and How to enhance the competitiveness of tourism

clusters through UILs?” by addressing the themes of Strategic Formulation, Strategic Implementation, Social Networks, Triple Helix effect across case studies. Besides explaining and using quotations, I discussed and analyzed across cases and compared with the literature to confirm, extend or disagree.

Porter's (2008:279) focus on communications and discussion in clusters insufficiently captures the processes necessary to shift the mindsets of participants. For example, from empirical experience, OSMEP once organized the meeting and then let the experts explain how important the cluster is and an inspiration, after which everything was quiet. This grossly underestimates the time taken to alter mindsets; to allow participants to envision themselves acting in the *new world* that the new cluster creates. Communication is not enough. It seems that OSMEP thought they already did their job and that the next thing is the cluster must do everything by itself. In reality, participants need time to adjust their thinking, ways-of-working, motivation and goals. These are emerging significant themes from my data: the leadership and strategic entrepreneurship will be shown to be critical elements in these change processes.

3.8. Discussion of data analysis method

To analyse data, I used some main stages by Easterby-Smith et al (1996) as a guide: 1) Familiarisation: I re-read the data to find the interesting themes; 2) Reflection: to prevent an oversight of crucial data, I asked these questions of myself: Does it support existing knowledge? Does it answer previously unanswered questions? So I must aware of previous research models. 3) Conceptualisation: the data that interviewees provided may give me more ideas (right or wrong or added) in terms of previous models missed. 4) Cataloguing concepts: I transferred crucial data to a reference guide by labeling. I used colours and personal terms to help with tracking. Card indexes were used. Sources of data were added into this card index. 5) Linking: There should be a clearer conceptual framework at this stage based on evidence obtained. So I linked all of the identified important variables into a model suited to the Thai context. Importantly, this stage linked backward to the literature and forward to data obtained.

Finally, to address the thesis' research questions across case thematic analysis and discussing them, meant that I divided the findings into major categories of themes as identified during the research while adhering to the working conceptual framework. The thematic analyses were classified into three categories for the sake of data reduction.

6) Re-evaluation: I asked critical peers who were my university colleagues and professors to give comments. For the method to be used effectively, the data needed to have been collected by means of a semi-structured questionnaire where respondents have been allowed to write their views on a number of open questions, or by means of a semi-focused interview as described by Easterby-Smith *et al* (1996) and Merton and Kendal (1957).

In addition, I used word processing to store data. While conducting interviews, I used the tape recorder, handy drive that can store data and record. In short, I analysed data by hand because it assists in understanding deeply the quality of data compared with computer analysis that may lead to counting the frequency of categories.

3.9 Reliability, Validity and Language

According to Yin (2009) the quality of any empirical social research is evaluated by its validity and reliability as is the case in this thesis' case studies.

3.9.1 Validity

I used multiple sources of evidence and this is relevant during the data collection, for example, Sakon Nakhon Development Plan between 2010 and 2013 issued by Sakon Nakhon Provincial Office, OSM Andaman Project, TAT annual report. Besides, I had a key informant review draft case study report.

Internal validity is mainly a concern for explanatory case studies, when an investigator is trying to explain how and why event *x* lead to event *y*. I explained what significant factors make clusters fail. (Yin, 2009)

This research also conformed to a conceptual framework, which helped the study to be guided by literature previously reviewed as suggested by Easter-by Smith *et al* (1996).

3.9.2 Reliability

As the goal of reliability is to minimize the errors and biases in a study (Yin, 2009), I used a case study protocol (see Table 3.10) to increase the reliability of the case studies and to be a guide in carrying out the data collecting and developing the case study database. Contents of the protocol are comprised of the introduction to case study and purpose of protocol, data collection procedures, outline of the case study report and case study questions. In addition, the protocol is a major way of increasing the reliability of the case study research and is intended to guide the investigator in carrying out the data collection from a single case (again, even if the single case is one of several in a multi-case study. (Yin, 2009)

Case studies rely on analytic generalization. The investigator is striving to generalize a particular set of results to some broader theory (Yin, 2009). Yin, (2009) also states that a theory must be tested by replicating the findings in a second or even third neighbourhood, and where the theory has specified that the same results should occur. These results will provide strong support for the theory.

3.9.3 Language Issues

In terms of transcription procedure, I used the ways Yin (2009) suggests and that transcribing audio recording to text involves a series of technical and interpretational issues for which there are not many standard rules; one basic rule state is to explicitly in the report how the transcriptions were made.

In terms of concept, the Thai government has employed the concept of clusters a few years ago. Thus this concept is considered as new in Thailand, and as a result, people do not understand this new concept and terminology. I used definitions and the advantages of having clusters from the government's manual of clusters.

In terms of translation, there are several factors which affect the quality of translation in social research: the linguistic competence of the translator/s; the translator's knowledge of the culture of the people under study; the autobiography of those involved in the translation; and the circumstances in which the translation takes place (Birbili, 2000). There is a need for social researchers who have to translate data from one language to another to be explicit in describing their choices and decisions, translation procedures and the resources used.

Methods of scientific inquiry are languages to the extent that they constitute systems of thought, with terms that have specific meanings and ways of framing problems that make sense only within the system. Most quantitative researchers employ the language of frequency or classical statistics; qualitative researchers often employ the language of participant observation or the different language of in-depth interviewing (Small, 2004).

If methods are languages, then the most important issue facing qualitative researchers---especially those concerned about the science of their work---is translation (Small, 2004).

Birbili (2000), collecting data in one language and presenting the findings in another involves researchers taking translation-related decisions that have a direct impact on the validity of the research and its report.

Thus, I used a pilot case study and pre-test questions that are crucial since they clear up any confusion. As Bryman (2008) argues, questions that seems not to be understood or questions that are not often answered should become apparent. In other words, respondents may not understand technical terms. Thus the pilot case study should assist in identifying the problem and preventing missing data. In addition, he suggests it is best to find a small set of respondents who are comparable to members of the population from which the sample for the full study will be taken. For pre-test questions; to prevent this language problem, I translated questions from English to Thai and interviewed ten people from the public and private sectors related to the service industry to correct ambiguous questions.

3.10 Ethical Issues

In order to cope with ethical issues, I used the guide by Silverman (2007), who claimed in Mason (1996) work's, that one way to confront these problems is to try to clarify intentions while you are formulating your research problem. Three ways of doing this were what the researcher adopted in her investigation and prior to meeting with different parties and setting up her interviews

1. I decided what the purpose of my research was.
2. I examined which individuals or groups were interested or were affected by my research topic.
3. I considered what were the implications for these parties in framing my research topic in the way I had done (Mason, 1996: 29-30)

So I gave information to interviewees about my research that was relevant to the subjects' decisions about whether to participate in the research via a formal letter.

3.11 Conclusion

The aim of research is to develop a theoretical framework that explains how University-Industry Linkages (UILs) can increase the performance of tourism clustering in Thailand. In addition, significant external and internal factors affecting the Thai tourism clusters will be examined. The research questions are significant given the importance of successful tourism cluster through University-Industry Linkages (UIL). These questions recognized tourism clusters, the role of university, the linkages between university and industry, influential factors are contextual, and as a result, I explored four tourism clusters in Thailand. I used multiple case studies designs to explain and understand the nature and character of tourism clusters and University-Industry Linkages (UILs) between tourism clusters and its universities. In this study, I selected the in-depth interview. Case studies are the preferred method because they are relevant to the research questions and the focus is on a contemporary phenomenon within a real-life context (Yin, 2009). Thus this study was suited to a qualitative method that is more appropriate than a quantitative

method. In addition, as I have been working for Kasetsart universities, this assisted me to get access to participants both in the public and private sectors and universities such as Prince of Songkla University. Finally, the findings will be disseminated to target audiences such as participants across tourism clusters, academics in universities, and policy makers.

CHAPTER FOUR

PRESENTATION AND WITHIN CASE ANALYSIS

4.1 Introduction

The purpose of this chapter is to present my detailed findings and to provide a platform for answers of the set of research questions as analysed and discussed in chapter five and chapter six.

This chapter also provides the data presentation in the form of a within case study analysis. It presents the primary and secondary data findings of the research in two stages.

The first stage covers the cluster formation, role of actors, strategy and policy discussed and issued at the national level by governmental and non-governmental bodies.

Also, for the sake of triangulation, a successful cluster is presented in order to give different views of how policies and strategies play an important role in enhancing business; through the interaction of different connected bodies like universities and government offices.

The second stage of the data presentation covers the primary and secondary data findings from the local level of different geographical clusters. At this stage the total number of four case studies, constituting 66 interviews, reports and documentation are presented so that they reveal the empirical data investigation.

This chapter explains what each case study reveals from the empirical data and presents the empirical data in the form of thematic analysis.

The chapter is structured as follows: section 4.2 presents the national level comprehensive illustration of all policies, strategies and role played by governmental and non-governmental bodies in strategy implementation. It also covers a case study that represents a successful cluster. Section 4.3 presents four case studies at the local level in three provinces in three regions. The local case studies are presented as follows:

Section 4.3.1 Northeast: Sakon Nakhon - Indigo Textile Cluster,

Section 4.3.2 South: Phuket Tourism Cluster,

Section 4.3.3 North: Chiang Mai

Section 4.3.3.1 Edutainment Cluster,

Section 4.3.3.2 Hotel de Charm Cluster.

The data presentation and analysis is guided by the conceptual framework as explained in the methodology chapter. Data presentation and analysis of all case studies are carried out through different themes and presented in a flowchart and a tabular format. The summary of chapter four is presented in the last section, 4.4.

4.2 National Level

At this stage of the research, I started to investigate the cluster formation and the role of the government and non-government bodies in setting out policies, strategies and plans. They explain how these strategies were implemented to enhance the linkages among government, university and private sector so that some geographical clusters benefited and exhibited successful stories.

They also expressed what they would like to achieve through better interaction among the three bodies involved. Their aspiration demonstrated great potential for cooperation on the national level such that companies, students, universities could benefit at the local level.

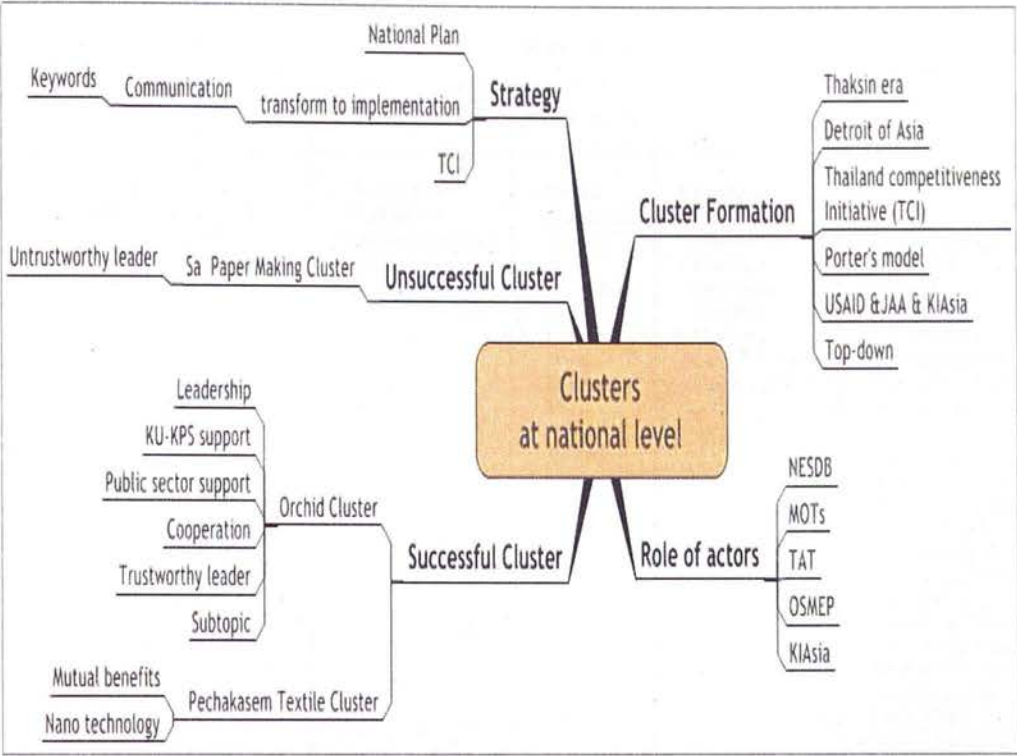


Figure 4.1 Flowchart shows different themes at national level
Source: Author

Guided by the conceptual framework, this section presented the different findings from integration as important expressed by the different bodies involved. These findings from the empirical data are analysed into themes in the flowchart as shown in figure 4.1. Themes cover cluster formation, strategy, successful and unsuccessful clusters, barriers and problems, including key success factors.

4.2.1The cluster formation

‘The cluster formation’ refers to the creation of the cluster as a tool in order to enhance the performance of the group or/and increase the competitiveness of the nation.

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
<ul style="list-style-type: none"> Cluster Formation 	Creation of cluster as a tool in order to enhance the performance of the group or/and increase competitiveness of the nation	<ul style="list-style-type: none"> Former PM Thaksin era Competitiveness of the nation Detroit of Asia 2 types of cluster formation: Top-down (public initiative) Bottom-up (private sector initiative) Porter's Model Cluster Establishing USAID support 	<ul style="list-style-type: none"> Orchid farmers get together from problems The Orchid Cluster born Former PM Thaksin invited Michael E. Porter to help cluster in Thailand 	<ul style="list-style-type: none"> Financial support from USAID Focus on agricultural industry Thailand Competitiveness Initiative (TCI) 	<ul style="list-style-type: none"> Thailand competitiveness Initiatives(TCI) funded by USAID Cluster Competitiveness co-organized by KIAAsia and JAA on Jan 2001 Form partnership between JAA and KIAAsia for cluster development in Thailand and Southeast Asia TCI Programme- 6 clusters: tourism in Phuket and Chiang Mai, Gem and Jewellery, Silk and OTOP World leader in niche markets Tourism Capital of Asia

Table 4.1 Clusters in Thailand at national level

Source: Author

The findings from table 4.1 show that there are two types of initiatives of the cluster: the first one is top-down established by the government and the second one is bottom-up established by the private sector. How does the type of cluster creation relate to successful or unsuccessful clusters?

'Detroit of Asia' which introduced the concept of the cluster to Thailand was the vision of the former PM Thaksin government after the financial crisis in 1997. Since then the cluster has been used as one key mechanism of strategies in the hope that it increased national competitiveness and pushed the country forward to compete in the rapidly changing world. Brainstorms were applied in both the public and private sectors; moreover, the government also played a significant role by hiring Michael E. Porter for the cluster project. As the Former Director of Strategies Integration and Formulation Division for the National Economic and Social Development Board (NESDB) said:

The Strategies Integration and formulation Division was established from the government who wanted us to be the Detroit of Asia including Logistic issue. The cluster is the one of the strategies that we use Michael E. Porter's following model. I have wondered how clusters have affected. (See Appendix 1.4 Question 1)

The first public seminar on cluster competitiveness co-organized by the Kenan Institute of Asia (KIASia) and J.E.Austin Association (JAA) in January 2001 was marked as an initiative to this new programme. After the seminar, KIASia assigned a team to learn more about Porter's methodology. According to the partnership agreement, JAA concentrated on the competitiveness initiative in Vietnam, Cambodia, and Indonesia while KIASia was responsible for Thailand. Thus the Thailand Competitiveness Initiative 2002-2005 was implemented by KIASia. These findings are summarized in the tables below:

In terms of birth of clusters in Thailand, the KIASia senior official said:

The clusters were begun about eight or nine years ago .For Kenan Asia, we have funding from the USAID. I was in this program called (TCI) The program promoted a variety of clusters and inspired knowledge about clusters. (See Appendix 1.6 Question 1)

Clusters were established during the former PM Thaksin era. As the NESDB Senior Official said:

When the government said the government will support clusters so every province, every government agencies, Industry Promotion Department, every departments, every ministry, every province, and every governor established the clusters in every province. (See Appendix 1.3 Question 3)

KIASia used the same pattern all around the country; group people for a meeting and workshop. If people did not have a vision, KIASia helped to do for them. (See Appendix 1.3)

KIASia did the clusters' mapping project in 2006. There were 152 clusters across the country, out of which 60 were selected for analysis. The results revealed that only 53 per cent had survived and most were in the initial stage. Now what has happened to these clusters? Do they still exist or have they declined?

As Senior Operational Officer, Competitiveness Project Division of OSMEP mentioned to the Health Tourism Cluster at Ranong as follows:

We may not follow up the clusters directly after they are implemented. So we do not know whether they worked. We do not keep records of telephone calls. Are they still together? Do they have more members? In my opinion, if the group understands the concept of the cluster and see benefits, then they should develop further. (See Appendix 1.5 Question 2)

Table 4.2A-C presents tourism cluster mapping at national level.

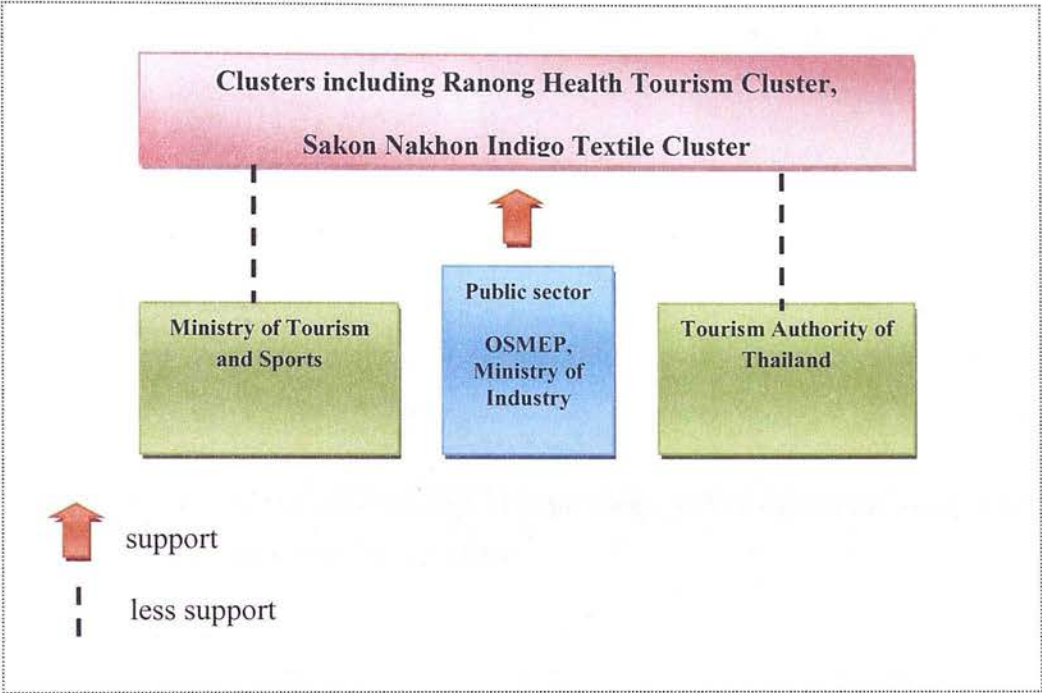


Table 4.2A Mapping clusters at national level
Source: Author

There are several actors involved in both government and non-government bodies such as NESDB, Ministry of Interior, Ministry of Industry, OSMEP, MOTS and KIAasia. From the Table 4.2A showed that OSMEP was involved with the Health Tourism Cluster at Ranong Province and Indigo Textile Cluster at Sakon Nakhon Province.

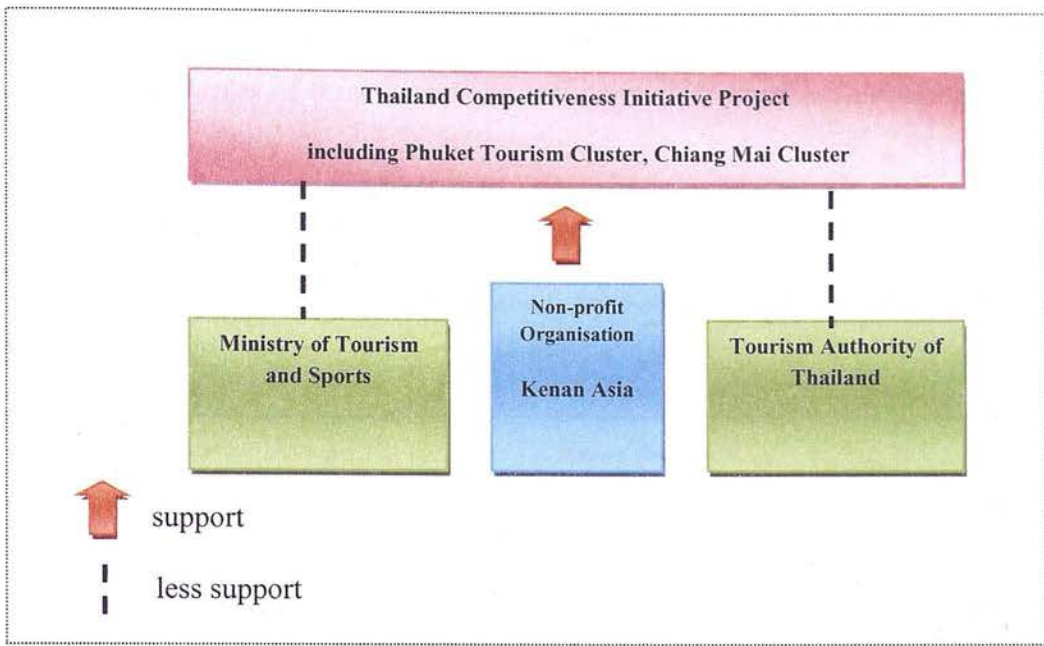


Table 4.2B Mapping clusters at national level
Source: Author

Table 4.2B showed that KIAAsia took responsibility of TCI which including Phuket Tourism Cluster and Chiang Mai Cluster

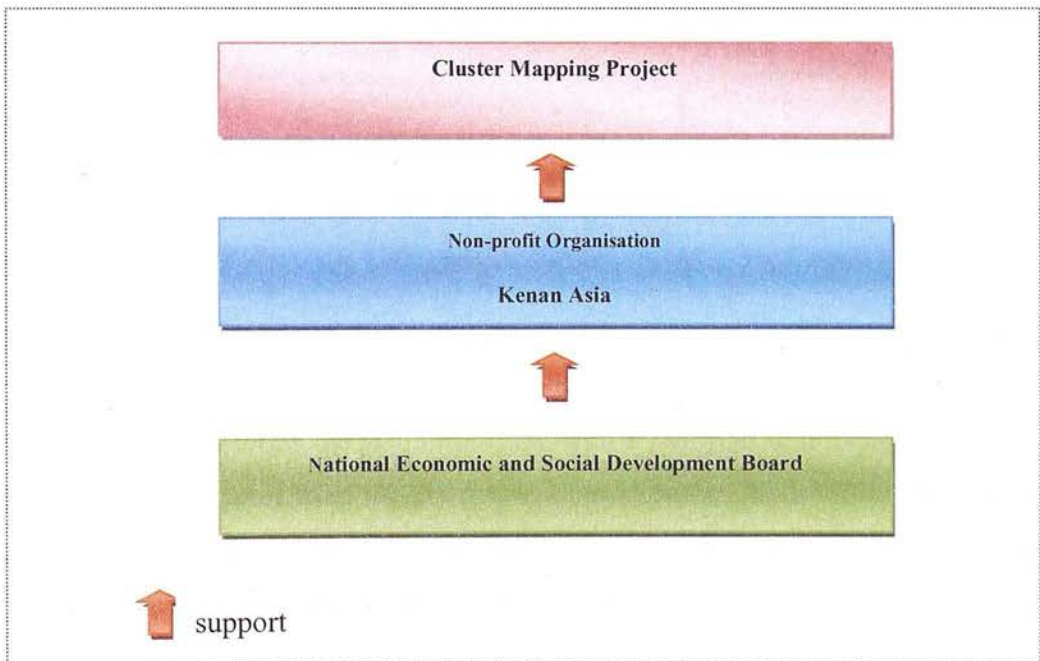


Table 4.2C Mapping clusters at national level
Source: Author

Table 4.2C showed that KIASia took responsibility of Cluster Mapping Project. What are the roles of these actors and how have their strategies influenced these clusters?

4.2.2. The role of actors

‘The role of actors’ means prescribed behaviour associated with particular organisations.

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
<ul style="list-style-type: none"> • Role of actors 	Prescribed behaviour associated with particular organisation	<ul style="list-style-type: none"> • NESDB-formulate national plan • MOTS-take responsibility of tourism and sports • TAT-promote tourism esp. marketing • OSMEP-promote SMEs • KIASia promote and inspired of knowledge about clusters • U.-Source of knowledge and stand up for social good 	<ul style="list-style-type: none"> • Ministry of Agriculture support orchid groups • NESDB support • Public sector support • KU-KPS help to do research 	<ul style="list-style-type: none"> • KIASia gives knowledge about cluster concept • KIASia train 7 industrial provincial officials per province (75 provinces) including train CDA • OSMEP financial support • KIASia cooperate with KU-KPS 	<ul style="list-style-type: none"> • NESDB-role of public sector are to support clusters development and to formulate policies or regulations that support clusters' competitiveness

Table 4.3 the role of actors
Source: Author

Table 4.3 shows the role of influential actors at the national level towards clusters. Starting with the role of NESDB, this government agency formulates the national plan and then transforms the plan into action with a five year timeframe. To obtain the budget and support from the government, organisations both in the public and private sectors must follow the national plan which has a framework and government keywords to guide the direction of the country.

The Ministry of Tourism and Sports (MOTS) is the ministry that takes responsibility for tourism and sport in the country whereas the Tourism Authority

of Thailand (TAT) is the organisation that promotes tourism by emphasizing marketing. In the past, TAT covered all areas but now the Tourism Development Department under MOTs is the organisation that takes responsibility for development and attractions. As the Director of the Marketing Research Division of the Tourism Authority of Thailand (TAT) said:

There is a problem in the Tourism and Sports Ministry because the ministry is an amalgamation of the TAT with the sports minister. There is conflict of interest within an organisation. The TAT people have 51 years of experience in tourism, but now are only permitted to carry out the marketing side. This is why, when tourists came to Thailand, they may see an attraction that is in ruins but because tourist attractions are the responsibility of the MOTS at local level so the TAT people can say that it is nothing to do with them. (See Appendix 1.2)

The result of changing as the Director of Marketing Research Division of Tourism Authority of Thailand said:

When tourism and sport were amalgamated half of personnel came from Physical Education. They knew nothing about tourism. The TAT people said half our work has been taken over but they did not take our tourism experts. The main concern now is sport. (See Appendix 1.2)

Another government agency is the Office of Small and Medium Enterprise Promotion (OSMEP) that is under the Ministry of Industry. OSMEP does not take responsibility directly for tourism clusters but to the SMEs in tourism, the task of OSMEP is to promote SMEs. However they must be careful not to overlap with the Tourism and Sports Ministry. Also, the decisions whether to do SMEs projects in relation to tourism depend on their board. As the Senior Operational Office, Level 2 Competitiveness Project Division, Project Administration and Coordination Bureau of OSMEP explained that:

It does not say directly that we will do tourism clusters. It depends on if, that year it was decided that clusters were important. It was the Board that made the decision. (See Appendix 1.5)

In terms of the role of universities, the Permanent Secretary of the Tourism and Sports Ministry expressed his opinion on the missions of university and commented that:

The preservation of our art and culture is one of the core goals of our country. Moreover our university should be prime source of knowledge regarding both arts and culture. We rely on our universities to stand up for the social good. But I do not know what has gone wrong. (See Appendix 1.1 Question 1)

Whether or not particular actors are involved can significantly impacts on the cluster's performance and survival.

4.2.3 Examples of Successful and Unsuccessful Clusters

The successful and unsuccessful cluster in Thailand are presented in order to give different views of what are the Key Success Factors that play an important role in enhancing or declining the cluster; through the interaction of different connected bodies like universities and government and non-government bodies. Examples in Thailand of successful and unsuccessful clusters are recognized by senior officials.

4.2.3.1 Successful cluster

I define a 'successful cluster' means the cluster that achieves its objectives and becomes sustainable. An example of a successful cluster is the Orchid Cluster

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
Successful cluster	The cluster that achieves to reach some tasks' objectives in particular time and can survive	<ul style="list-style-type: none"> Orchid Cluster Bottom-up Private sector led Successful Elements Leadership KU-KPS support Public sector support Cooperation Pechakaseam Textile Cluster Mutual benefit Educational institute support- Nano technology 	<ul style="list-style-type: none"> Orchid groups occurred from the insect problem Orchid Cluster leader cooperate with public and private sector Orchid Cluster emphasis on Quality Control from upstream suppliers to downstream customers 	<ul style="list-style-type: none"> Ratchaburi Orchid Cluster Korat Pork Cluster- strong purchasing power of raw material and differentiation 	<ul style="list-style-type: none"> Ratchaburi Orchid Cluster Wine clusters in Argentina success from Public Private Institute (PPI)

Table 4.4 Successful Cluster
Source: Author

The Orchid Cluster is a successful cluster as it achieves its objectives and appears sustainable. As table 4.4 illustrates, that Orchid cluster exhibited the following key success factors, which were gathered and analysed from primary and secondary data sources. These characteristics involved the bottom-up Private sector led, leadership abilities, and the support of KU-KPS University alongside the cooperation and support of the public sector. The Orchid groups arose as a result of the insect problem affecting exports; because of this knowledge transfer from the University proved critical in the success of the cluster enabling quality control by upstream suppliers to downstream customers.

The table 4.4 shows a successful cluster. As the NESDB Senior Official said:

A really successful cluster is the Orchid Cluster. It began in the private sector and still has people actively involved. The leader is Mr S who continuously drives the cluster forward by finding new networks, pulling the parties together. He organizes a yearly meeting for the entire cluster membership and some representatives from the public sector. Because it is so successful outsiders want to join and it now has government support despite being ignored in the past. KU-KPS has had an input in this cluster from the beginning. Mr S approached KU and in particular a researcher called Mr Jul. There was a problem with insect infestation that led Mr Jul to conduct experiments which resulted in solving the problem. They have co-operated all the time with product development and KU has not charged any fees. (See Appendix 1.3)

Consistently the Manager, Business Advisory Service of KIA Asia said:

The Ratchaburi Orchid Cluster is successful because their main leaders push for business and make personal sacrifices. This cluster took up to 8 years to develop and finally succeeded. (See Appendix 1.6 Question 2)

Regarding other successful clusters, the Senior Operational Office, Level 2 Competitiveness Project Division, Project Administration and Coordination Bureau of OSMEP said:

I think the successful clusters those such as the textiles at Pechakaseam. There are those upstream, middle stream and downstream. Perhaps the cluster began in the middle stream and even though it was small when people saw it, they joined and the group expanded. However, management is the core of this enterprise but if it is not trustworthy, it cannot survive. I give examples of those that are successful and those that do not succeed. What are the reasons they cannot survive? The textile cluster Pechakaseam, did not have any idea how to join together at first. They thought that since each own a factory producing garments, why should they have to join together? I spent a lot of time in meetings to explain why they should join together. They did not want to join a cluster. However, they suddenly got a lot of orders for yellow T shirts,

too many for one factory. As a result they decided to share the orders and combined to buy the materials necessary. A research institute introduced them to a special fabric in Nanotechnology. As a result the T-shirts they produced from this material sold at 450 Baht (two or three times the price of a cheap cotton T-shirt). This is an example of adding value to a product. (See Appendix 1.5

4.2.3.2 Unsuccessful cluster

‘Unsuccessful cluster’ in this study means the cluster fragmented, failed to achieve its objectives and proved unsustainable. An example of an unsuccessful cluster is the Sa Paper Making cluster.

Theme	Description	Primary Data		
		Public Sector	Private Sector	University/ Non-Profit Organisation
Unsuccessful cluster	the cluster that declined	<ul style="list-style-type: none"> • Sa Paper Making Cluster • Untrustworthy Leadership 	<ul style="list-style-type: none"> • Orchid groups had conflict • Discontinue activities • Limited budget • Quality problem • Market problem 	<ul style="list-style-type: none"> • Projects gradually decreased due to discontinuous budget • Projects were too short • SMEs entrepreneurs are narrow-minded

Table 4.5 Unsuccessful cluster
Source: Author

Regarding an unsuccessful cluster, the Senior Operational Office, Level Competitiveness Project Division, Project Administration and Coordination Bureau of OSMEP said:

I will give you another example of a cluster that did not succeed. It concerns Sa paper making in the North. OSMEP gave support and told them how to prevent water pollution. In order to develop more products they took people from the paper mill on a study trip abroad to see how others worked. As a result they invited foreign designers and adopted European trends. Then they sent four to five people abroad to get orders but when they returned they did not share their orders and knowledge. The other members of the cluster were very angry and as a result their group collapsed. So they grouped and had to count one again. It maybe not be specific to tourism but the story is the same. (See Appendix 1.5)

The table 4.6 below demonstrated the strategies at national level. In terms of strategy, the government uses the national plan, framework and keywords to guide and allocate budget to the government and non-government bodies all around country. When they want to apply for the government budget, their plans must be consistent to the national plan, the government framework and the government keywords in order to obtain budget. When the government changes so do the government keywords. Consequently, almost all previous projects stopped.

‘Strategy’ means plan that was formulated to achieve the desired goal.

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
Strategy	plan that was formulated to achieve the desired goal	<ul style="list-style-type: none"> PM Thaksin era- Cluster as a tool to increase competitiveness of the country Porter’s model PM Abhisit era – Creative Economy Keyword Transform strategy to implementation 	<ul style="list-style-type: none"> Orchid group joined the cluster project Orchid cluster emphasis quality control from upstream suppliers to downstream customers 	<ul style="list-style-type: none"> KIAsia did not focus on tourism Lack of people who look at the big picture of tourism industry Overlap function Department of Industrial Promotion take care of clusters’ projects 	<ul style="list-style-type: none"> On 17 April 2009, Thai Cabinet approved tourism as the national agenda to solve crisis of Thai tourism industry Strategic tourism planning 2009-2012 Strategic tourism planning 2012-2016

Table 4.6 Strategy at national level

Source: Author

The Former PM Thaksin government used keywords such as competitiveness and clusters. When the Abhisit government came into power those keywords were dropped. As the Senior Official of NESDB said:

During the Abhisit government, the key word was creative economy so I emphasise these two words. (See Appendix 1.3)

Some policy makers gave up and followed the new keywords that the new government launched. As the Senior Official of NESDB said:

When I went to OSMEP and spoke to Mr.J. He told me that although he wanted to push the cluster project, he was not able to do so because the top

management of OSMEP wished to follow the Abhisit government plan to encourage the 'creative economy'. (See Appendix 1.3 Question 22)

But some project workers tried to think of ways to make their old plan continue to work by linking with the new concept and responding to the politicians at the same time. As the senior official of NESDB expressed:

My objective is not the name but the goal, so I adjusted my language from the word 'cluster' to the words 'creative economy'. (See Appendix 1.3 Question 23)

In terms of clusters, the Former Director of Strategies Integration and Formulation Department, NESDB said:

The cluster is the one of strategies that we use- Michael E. Porter's model until now. From the beginning of clusters from my reading and interpretation, actually, a cluster starts by itself. The government, the policy makers help a little bit. I never saw a cluster that the government supported work, and so I would like you to go to talk with the NESDB senior official who is the cluster expert. She knows better because actually- does the cluster work or not? Even Michael- he has studied the cluster that already exists for more than ten years. I have never seen clusters that the government established work. (See Appendix 1.4 Question 2)

4.3 Local Level: Four Case Studies

At this stage of the research, I started to investigate the four case studies at local level in three provinces in three regions:

4.3.1. Northeast- Sakon Nakhon - Indigo Textile Cluster,

4.3.2. South- Phuket Tourism Cluster,

4.3.3. North- Chiang Mai,

4.3.3.1. Edutainment Cluster, and

4.3.3.2. Hotel de Charm Cluster

I explain each case study, using new empirical and secondary data what happens at a local level; using the conventions of qualitative research, I then distil this data (using a process of coding, patterning and theming) to identify key strategic variables that are then utilised in the presentation and analysis of data to identify why some clusters succeeded more than other.

Guided by the conceptual framework and flowchart, this section presents the different findings in each case study interacting by the different bodies involved.

4.3.1 Northeast- Sakon Nakhon - Indigo Textile Cluster

In this sector, I made themes within the case study and present the findings of this case study in the format of a flowchart and tables as well as explanations under each table, meaning what is in the case study using quotations and documentation as examples. Different themes are presented in the tables. These themes in the case study cover cluster formation. Also, how the role of government and non-governmental bodies at regional and local level concerning policy and strategies affected the cluster implementation.

The Indigo Textile Cluster is comprised of groups of local people in each village in Sakon Nakhon Province who dye Indigo clothes linked with government and non-government bodies and universities for mutual benefits.

The map below (see fig 4.2) shows where Sakon Nakhon Province in Thailand is:



Figure 4.2 Indigo Textile Cluster located in Sakon Nakhon Province
Source: Sakon Nakhon (2013)

Guided by the conceptual framework and flowchart, this section will present the different findings regarding integration expressed in terms of importance by the different bodies involved.

Data presentation and analysis of the Indigo Textile Cluster Case Study carried out through the different themes presented in a flowchart and a tabular format.

These findings are analysed in the flowchart below:

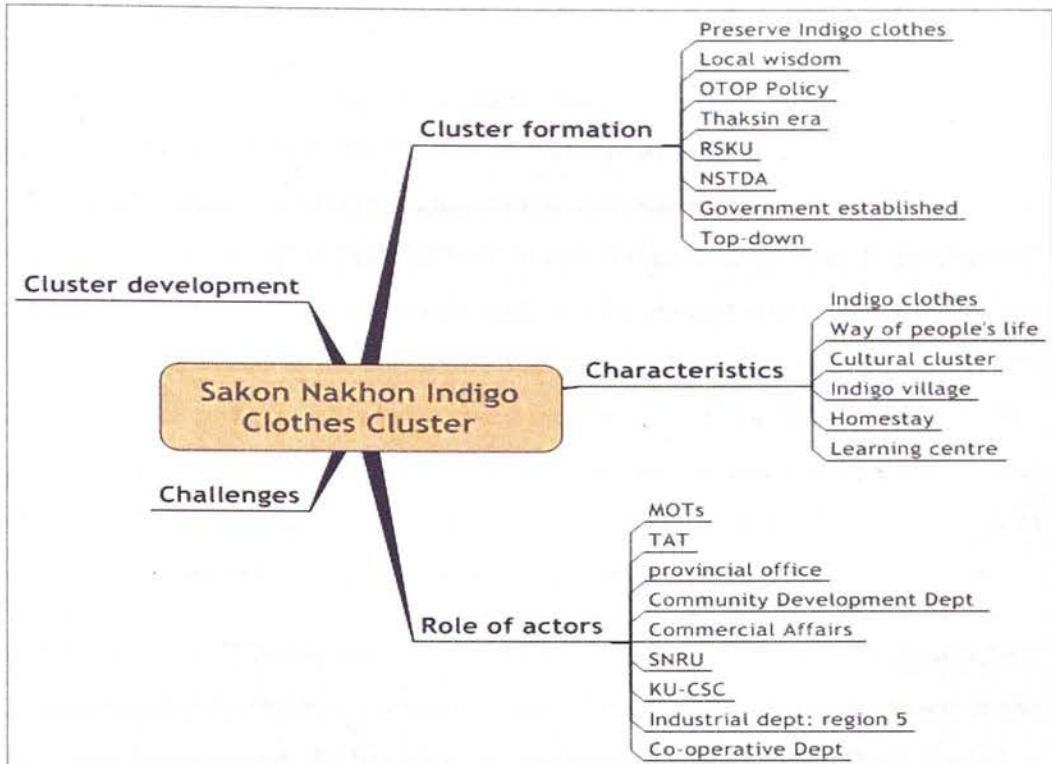


Figure 4.3 Flowchart shows different themes in Indigo Textile Cluster;
Source: Author

The Figure 4.3 shows findings from the empirical data in the form of a thematic analysis. Themes covers cluster formation, strategy, barriers and problems including key success factors. The findings are summarized in the tables below.

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
Cluster Formation	Creation/ original of cluster	<ul style="list-style-type: none"> Preserve Indigo clothes as local knowledge PM Thaksin era OTOP policy 	<ul style="list-style-type: none"> Top-down - Governor established the cluster and appointed president and CDA 	<ul style="list-style-type: none"> Top-down - Governor established the cluster Sakon Nakhon Rajaphat University-seminar made indigo well known. 	<ul style="list-style-type: none"> Cluster formed on October 2005 Revenue of indigo clothes in the year 2005- 70 million Baht (£1.4 million) Register as Indigo group 60 groups but only 9 groups are 4-5 star OTOP

Table 4.7 Sakon Nakhon Indigo Textile Cluster Formation
Source: Author

The table 4.7 shows the original of Sakon Nakhon Indigo Textile Cluster. Indigo clothes disappeared from the country for one generation about 50 years ago. In 1992 Mrs P (head of Maeteeta Indigo Group at Nadee Village, Punna Subdistrict) and her mother started to find out how to dye indigo clothes. Mrs P travelled all around the country to find the indigo seed. Finally she got it from the Karen tribal people on a mountain in the North of Thailand. Then she tried to learn how to dye by looking for someone who knew about the dyeing process. She travelled around and once she went to the market and tried to find anyone who had black nails. She did find one person, but that old lady did not dye anymore and had forgotten how to do it. For five years Mrs P and her mother experimented.

In 1997 Mrs P met Mrs A, who was Dean of the Faculty of Science and Technology at Rajabhat Sakon Nakhon University. Mrs P told Mrs A that a Professor at the National Science and Technology Development Agency (NSTDA) wanted a researcher to carry out research into indigo clothes. At the same time, Mrs A wanted to preserve indigo clothes as local knowledge. Moreover, her ancestors used to make indigo clothes and had their own family pattern. Thus Mrs A proposed and obtained a budget from NSTDA. With help and advice from NSTDA Professor, Mrs A knew how to disseminate. After experimenting for a while, Mrs A organized a seminar because she knew she already had some knowledge from three sources; firstly from documents. At first she tried everywhere in Thailand but was unsuccessful so she asked her friend studying in Michigan, US. Her friend investigated at the library but found few relevant chapters from two books. Secondly, she had knowledge from her experiments. The third part was from local people who had dyed indigo clothes. So she pulled the three parts together, summarized them and wrote a report. The seminar was unusual because the person who gave the speech was a local lady and the listeners were academics. At that time, people were becoming interested in natural products. So participants were amazed to learn about the indigo dyeing procedure. News was distributed through every channel; newspaper, radio, TV. At that time, the Thaksin Government wanted to promote OTOP (One Tambon One Product). As the news spread, more people

became interested in indigo. There are more buyers and more people who dye indigo. The activity has expanded from her village to other districts and other provinces.

Because Mrs P's product was outstanding, she had the chance to go abroad several times with public sector bodies such as the Export Promotion Department. When in Japan she saw that the machine was operated only by one person and began to wonder how she could compete with them. She came up with the idea that she could compete only by handcrafting. Since then, quality is her main priority. Her goods are highly priced but unique. The film "Troy" used her product for the actors, buying from her home in Sakon Nakhon.

With the cluster's policy of the Thaksin era, the governor established the Indigo Textile Cluster. Even though 'Indigo' was started by Mrs P, she stepped back from being the president when the cluster was established by the government. So the governor chose another woman to be the president.

The President of Province Official Administration (POA) said:

Indigo is a very expensive product and the fabric is hand dyed. We aim at the middle and upper classes. I want to build a learning centre where foreigners can come and learn about indigo whilst staying in indigo houses. If many tourists come we can build at Punna Village. I want farmers to have a sustainable life. I can provide funding for seeds and help with animal breeding. (See appendix 4.2 Question 1)

In addition, the province has promoted the product by persuading every organisation, both in the public and private sectors, to wear indigo clothes once a week. At that time the governor wanted to promote indigo dyeing as a local knowledge and to create the indigo village as a learning centre, so he approved the project. However when the governor changed, even though the project was approved, the project was dropped.

Table 4.8 below shows the role of the public sector towards tourism; TAT takes responsibility for marketing including advertising, PR, events promotion. But in the past, TAT covered development and marketing, activities support and

traditional events support. Some activities, TAT creates by itself whilst some worked up with communities and with local people to generate activities.

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
Role of actors	Prescribed behaviour associated with particular organisation	<ul style="list-style-type: none"> • MOTS-take responsibility of tourism attraction • TAT-promote tourism esp. marketing • OSMEP-promote SMEs • SNRU.-Indigo dye process, curriculum • KU-CSC- Garment Cluster • Local government bodies support such as OTOP fair 	<ul style="list-style-type: none"> • Public sector support such as Office of Commercial Affair Sakon Nakhon Province • Supportive institutes such as RSNU 	<ul style="list-style-type: none"> • KU-CSC work as coordinator • KU-CSC cooperate the cluster participants such as with PAO, Sakon Nakhon Chamber of Commerce, Community Development Provincial Office • OSMEP supported • Industrial Promotion Centre Region 5 provide financial support 	<ul style="list-style-type: none"> • Provincial meeting-public and private sector in Sakon Nakhon wear indigo clothes every Fridays • Public sector support such as Community Development Provincial Office, Office of Commercial Affair Sakon Nakhon Province • Supportive institutes such as SNRU, KNU, Sakon Nakhon Chamber of Commerce

Table 4.8 Role of actors
Source: Author

At present, TAT does the marketing whilst MOTS takes responsibility for development such as attractions, human resources, tour guides, and tourist statistics.

However, the local government body has not paid much attention to tourism as the Chief of Tourism and Hotel Management Department, KU-CSC said:

Tourism is important but the role of the public sector is still small in this province. (See appendix 4.15 Question 5)

In terms of the role of the public sector, the governor did persuade private and public sectors and universities to wear indigo clothes every Fridays but this runs the risk of creating counterfeit demand; if the governor withdraws his support - who will buy indigo clothes? This worried local government bodies as the Vice Governor said:

If there is no One Tambon (village) One Product (OTOP) Fair or if the province does not organize events or support indigo groups to sell their products, they will be in difficult situation. If one day the demand in our country finishes, where will they sell. I am worried. (See appendix 4.13 Question 8)

In terms of the role of the university towards the cluster, the Deputy Director of Research Centre, KU-CSC said:

What we can do with our connections is to go to the Export Department. In terms of marketing, we have experts in marketing. They have channels which participants want. I want to use the Rubber Cluster Model. We might set the company to get orders then distribute these orders amongst them. This is an issue for Dr. Sumalee who does clusters for the Industrial Ministry. She is the advisor to this project too. So what the university can do is the marketing by finding experts who come and analyse the opportunities. So KU works as the coordinator bringing several organisations together to support each other. If the Export Department has an order, send for us. It is our duty to manage and to cooperate. Then in 3-5 years, we will phase out. They must continue by themselves. After that we will act as consultants. But we will not abandon them. Now we act as an organizer. (See appendix 4.13 Question 16)

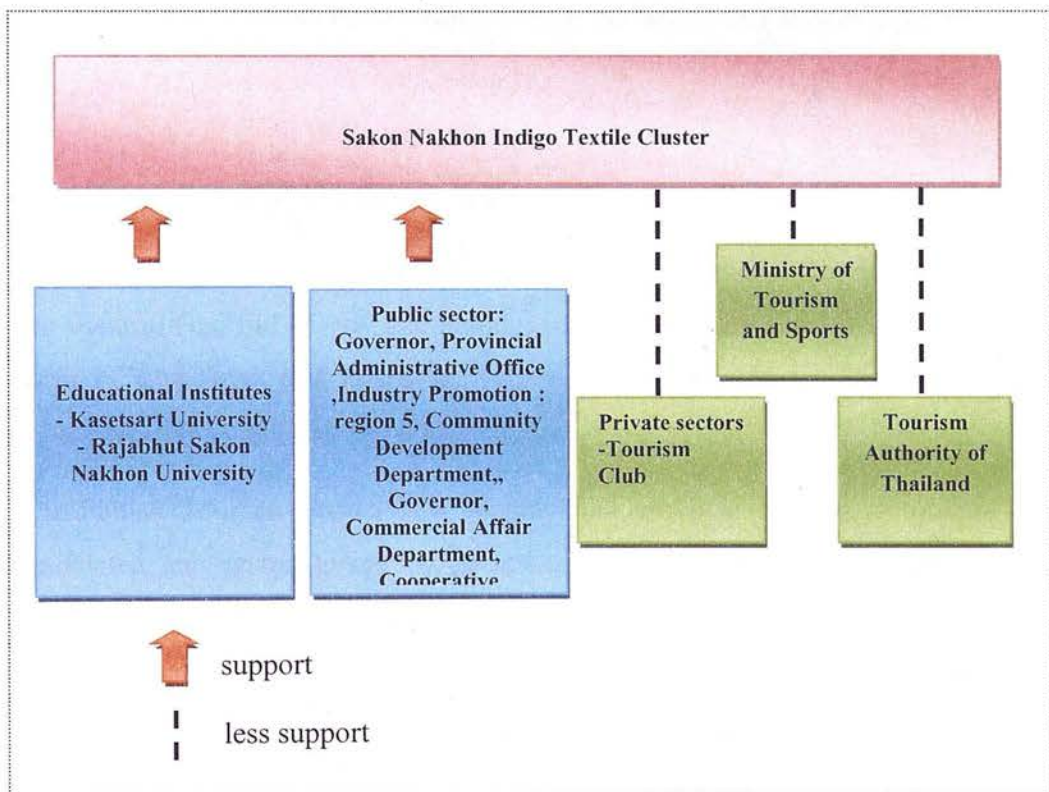


Table 4.9 Sakon Nakhon Indigo Textile Cluster Mapping; Source: Author

At Sakon Nakhon province, there are several actors involved with Sakon Nakhon Indigo Textile Cluster. In the public sector, there are Governor, Provincial Administration Office (PAO), Tourism Authority of Thailand (TAT), Sakon Nakhon Provincial Office of Tourism and Sports (MOTS), Office of Commercial Affairs, Community Development Department, Industrial Department, Cooperative Department. These government agencies have provided periodic support depending on the policy and the budget. Each acts only within its own scope such as TAT and MOTS.

In terms of boundaries, the TAT at the regional level takes responsibility for three provinces. For example, TAT: Nakhon Phanom office will take responsibility for Nakhon Phanom, Sakon Nakhon and Maha Sarakham. Regarding the MOTS, Sakon Nakhon Office falls under the Nongkhai province. As the Director of the TAT: Nakhon Phanom office said:

When MOTS: Sakon Nakhon Office bids for the budget, they must ask from the Nongkhai Province. I think they will have to adjust again. They have to adjust like TAT. (See appendix 4.3 Question 2)

4.3.2 South- Phuket Tourism Cluster

In this sector, I started to investigate the government National Tourism Policy, and the Visiting Thailand Policy. The findings of this case study are demonstrated in the form of flowcharts and tables as well as explanations under each table using examples from quotations and documentation.

The Phuket Tourism Cluster is a geographical group in relation to tourism and associated institutions linked by particular projects. This map below (Fig 4.4) shows where Phuket Province is in Thailand.

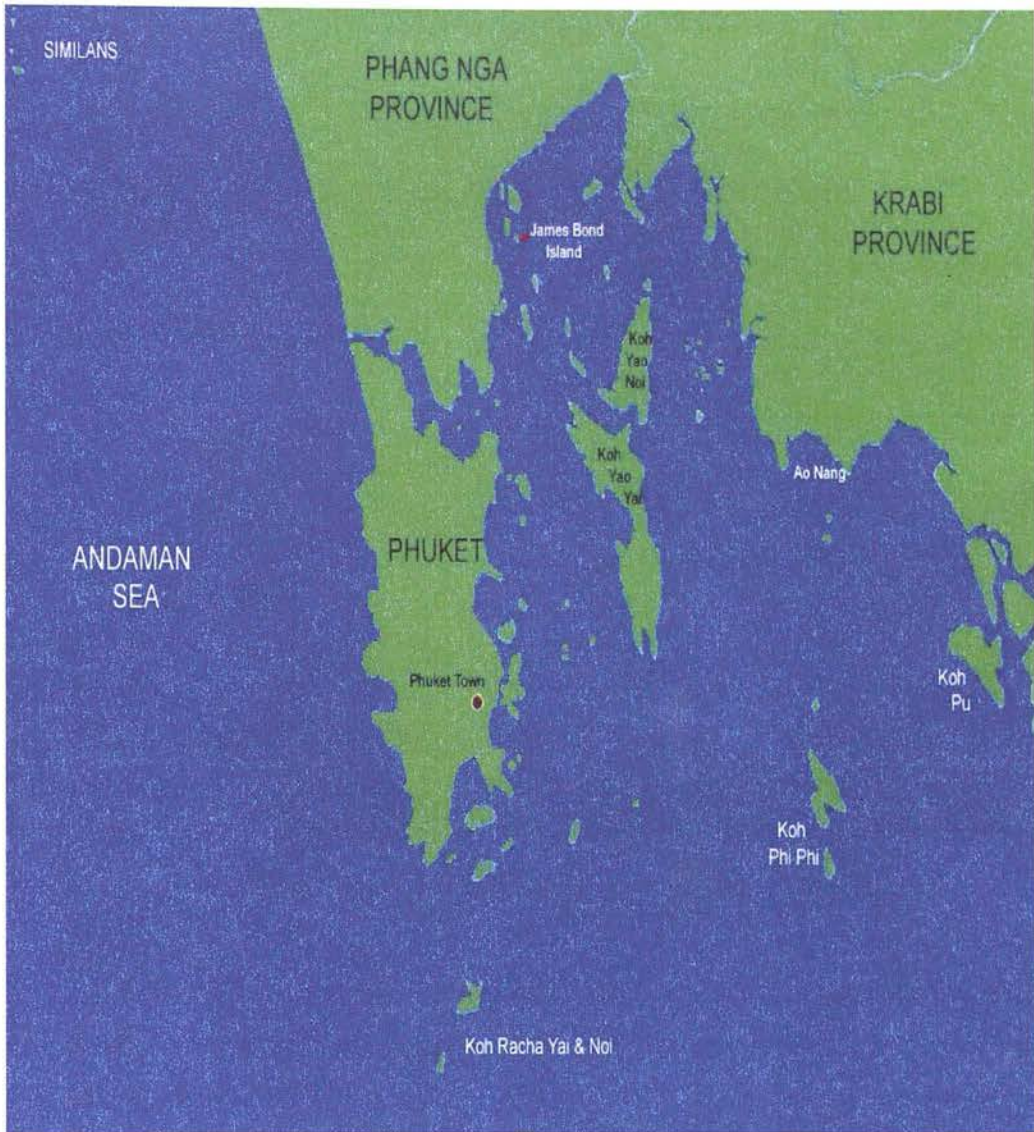


Figure 4.4 Phuket Tourism Cluster located in Phuket Province
Source: Welcome to Phuket (2013)

The Phuket Tourism Cluster is a geographical group in relation to tourism and associated institutions linked by particular projects.

Data presentation and analysis of the Phuket Tourism Cluster Case Study carried out through different themes is presented in a flowchart and a tabular format.

These findings are analysed in the flowchart below:

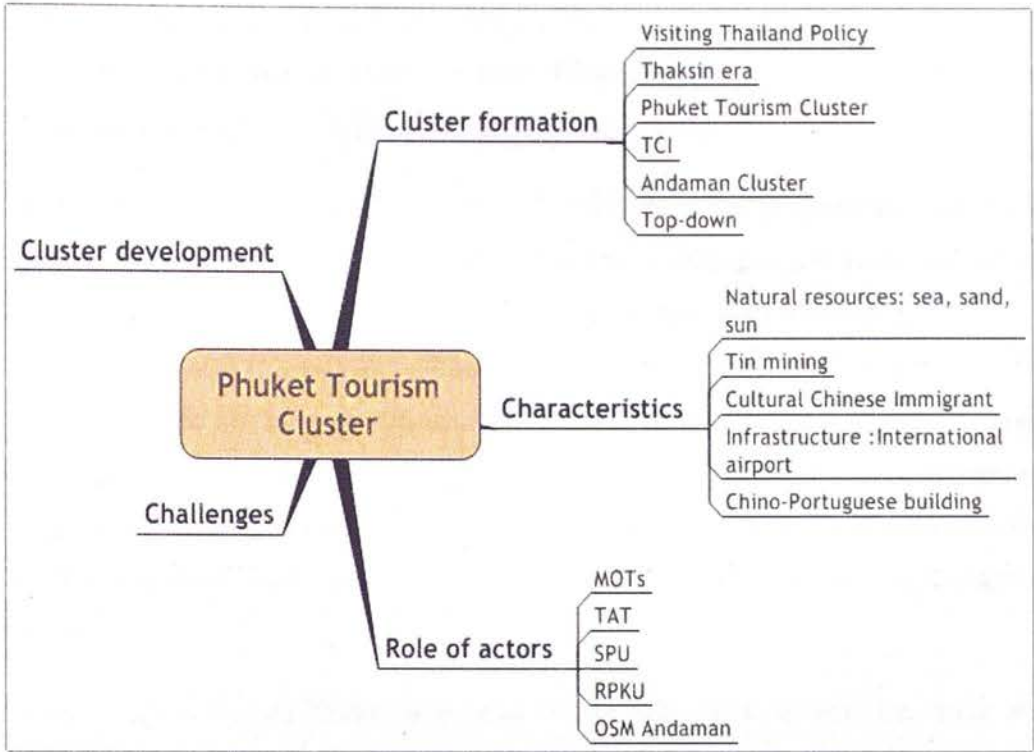


Figure 4.5 Flowchart shows different themes in Phuket Tourism Cluster
Source: Author

Figure 4.5 shows findings from the empirical data in the form of thematic analysis. The themes cover cluster formation, strategy, barriers and problems including key success factors.

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
Cluster Formation	Creation/ original of cluster	<ul style="list-style-type: none">• Visiting Thailand Policy• Thaksin era• Top-down• Government led• CEO Retreat• Phuket Tourism Cluster• Andaman Cluster	<ul style="list-style-type: none">• Thai Hotels Association: Southern Chapter tries to push hotels and universities to cooperate to each other and create standard service	<ul style="list-style-type: none">• Andaman Triangular	<ul style="list-style-type: none">• TCI Programme-6 clusters: tourism in Phuket and Chiang Mai, Gem and Jewellery, Silk and OTOP

Table 4.10 Phuket Tourism Cluster formation

Source: Author

Table 4.10 shows how the national policy affects the direction of Phuket Province. Since the Visiting Thailand Policy of 1985, Phuket abandoned tin mining in favour of tourism. Consequently, the city has grown dramatically.

Then, after the Asian Financial Crisis of 1997, in order to generate economic competition at regional and international levels, the Thaksin Government employed the concept of the cluster because it thought that the provinces themselves could not generate the power to compete with their regional and international competitors. As a result, it made sense for the provinces to join together as clusters since they have different potentials. To meet their economic goals they were selected according geographic location. Consequently, the Phuket Tourism Cluster expanded initially to three provinces and then to five provinces which are now named Andaman Cluster.

However, even though Phuket is a small Island with three districts but there are several actors both in government and non-government bodies involved with tourism because of the Visiting Thailand Policy; this turned Phuket into a tourism city. How have these actors interacted?

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
Role of actors	Prescribed behaviour associated with particular organisation	<ul style="list-style-type: none"> Interior Ministry-take care of Andaman cluster The governor is the head MOTS-take responsibility of tourism attraction TAT-promote tourism, organize Andaman Travel Trade show PSU and PKRU-graduates, research, academic service 	<ul style="list-style-type: none"> Thai Hotels Association: Southern Chapter tries to push hotels and universities to cooperate to each other and create standard service Universities started cooperative program 	<ul style="list-style-type: none"> Faculty of Management-PKRU curriculums response to local context such as marine curriculum 	<ul style="list-style-type: none"> OSM Andaman takes responsibility of the cluster

Table 4.11 Roles of actors
Source: Author

Table 4.11 shows the roles of actors towards the cluster. There are several actors involved within the cluster. However, I selected some influential actors inside the cluster such as the Interior Ministry, PAO, and TAT. The Interior Ministry has responsibility for the Andaman Cluster. The leader of the cluster is the Phuket Governor, and the Andaman Strategic Office (OSM Andaman) at the Provincial Office acts as secretary to the cluster. Both positions are under the Interior Ministry.

In terms of the role of the actors, some problems occurred when the cluster was implemented. The senior provincial official of OSM Andaman explained the origins of the Phuket cluster and how the government strategy was implemented, saying:

In Thaksin's time he divided the country into 18 clusters spread through the 76 provinces. There was one deputy for 2-3 clusters. This was a problem because the clusters were too big. For instance from a regional perspective it is impossible for the governor of Phuket to manage five provinces, each of which has their own governor. He does not have authority. (See Appendix 3.1)

PAO has a supporting role because they collect revenue of one per cent from local taxes on hotel rooms, which means about 50-60 M (£1-1.2 M) that is used for Phuket marketing in order to penetrate new markets. They will go to tourism events such as the international tourism trade show in Berlin. The Phuket booth was opened there by using the PAO budget.

Whereas the Director of TAT, Phuket Office said:

TAT organized a trade show for the Andaman Travel Trade and invited travel agencies from abroad to attend. We saw this as being TAT'S role in encouraging tourism. (See Appendix 3.3 Question 26)

In addition, TAT does PR and cooperates with other organisations by organizing activities such as the Chinese New Year, Song Kran (Thai New Year), Loi Krathong and vegetarian festivals. They organize these activities to attract more tourists.

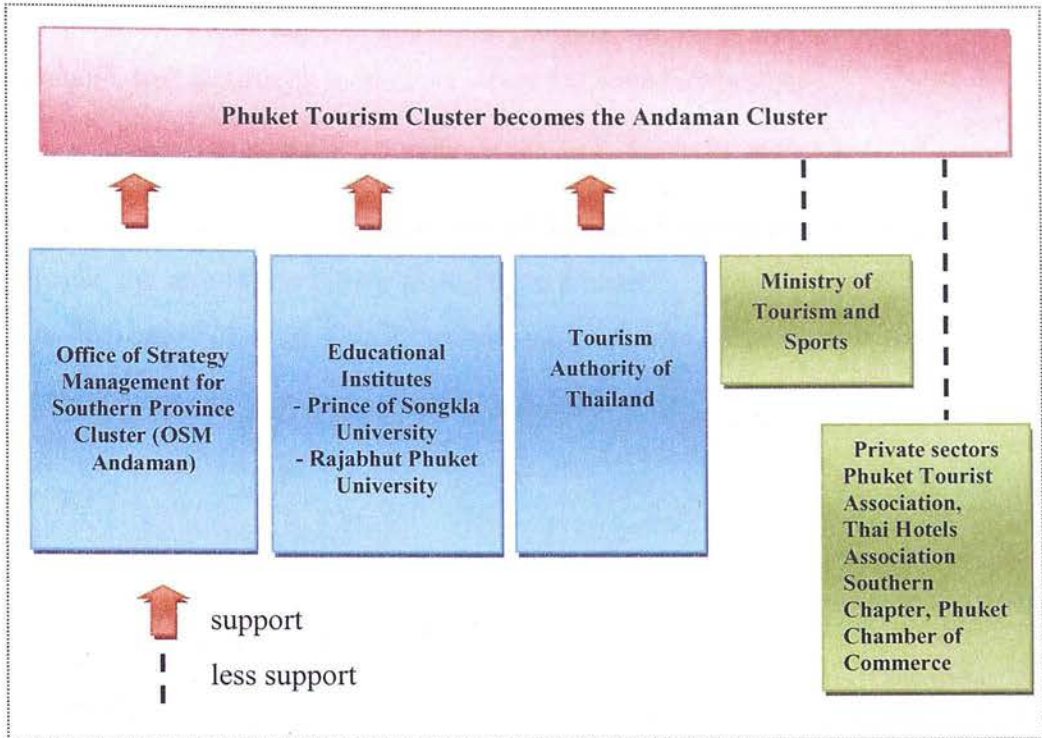


Table 4.12 Phuket Cluster Mapping; Source: Author

Table 4.12 shows the Phuket Cluster Mapping. There are several actors involved such as OSM Andaman, TAT, and Municipality whilst there are two universities: Prince of Songkhla University and Rajabhut Phuket University supported the cluster. In the private sector, there are the Phuket Tourist Association, the Thai Hotels Association Southern Chapter and other organisations such as the Spa Association and the Phuket Chamber of Commerce. The Director of TAT: Phuket Office said:

Tourism is our core industry. Our revenue is approximately 100,000 million Baht per year (£ 2,000 M). There is four million for foreign and 1 million for Thai tourists. Everything that happens here is linked to tourism; the main revenue of the people here is from tourism, and the public sector and the private sector both support tourism. (See Appendix 3.3 Question 1)

In terms of boundaries, there are several organisations involved such as the Tourist Association, the Thai Hotels Association, the Spa Association, and the Transport

Cooperative. Much depends on what projects the local government decides to promote, so it is difficult to measure where the boundary is.

4.3.3 North- Chiang Mai

There were two tourism clusters in Chiang Mai: the first one was the Edutainment Cluster; the second was the Hotel de Charm Cluster.

The map below (See Fig 4.6) shows where Chiang Mai Province is in Thailand:



Figure 4.6 Edutainment Cluster and Hotel de Charm Cluster located in Chiang Mai
Source: Google Map (2013)

In this sector, the research presents themes that start from the original cluster and interaction between three bodies; the public and the private sectors plus the university who were involved in generating Chiang Mai Charm. In addition, the research explains the role of the government and non-government bodies, how their strategies were implemented, and why the cluster disappeared. The findings of this case study are demonstrated in the format of a flowchart and tables as well as explanations under each table using examples from quotations and documentation.

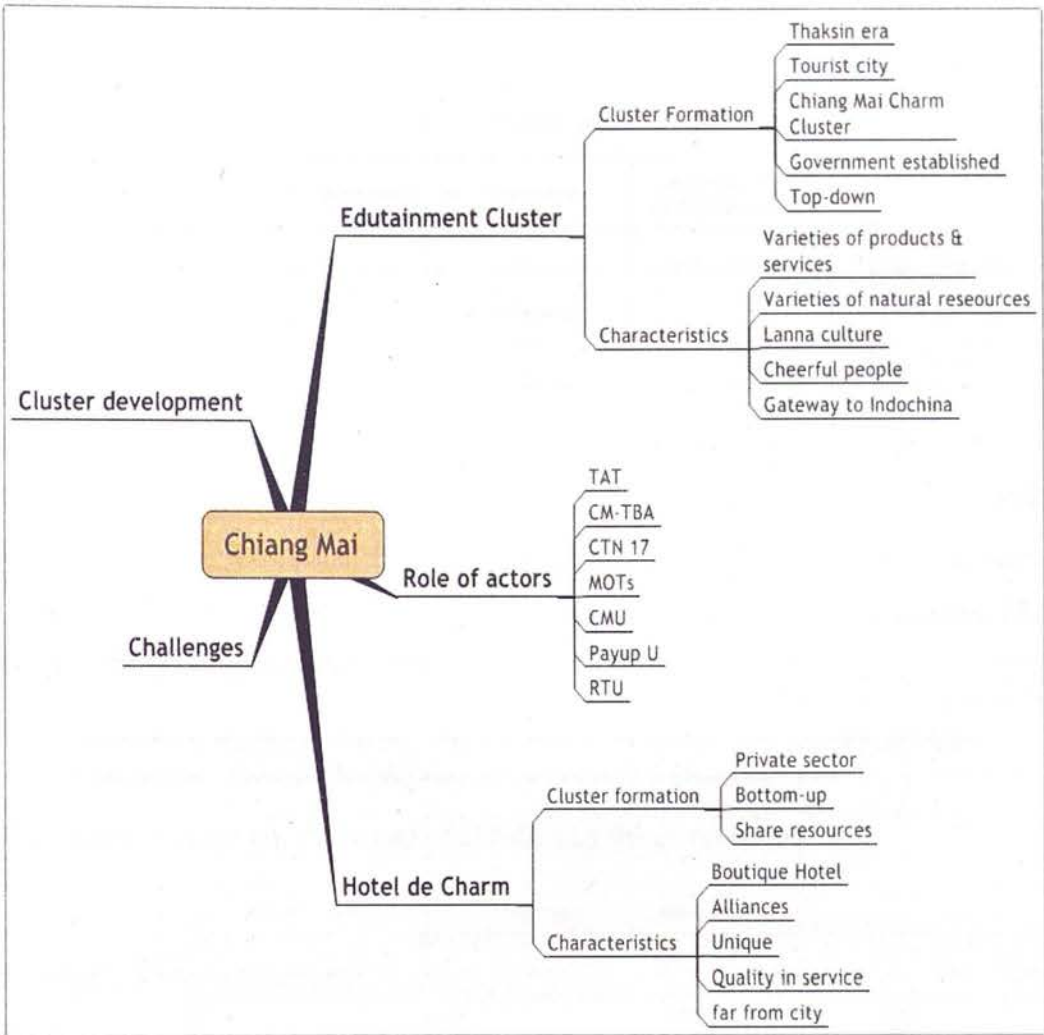


Figure 4.7 Flowchart shows different themes in two Clusters in Chiang Mai:

Edutainment Cluster and Hotel de Charm Cluster; Source: Author

The figure 4.7 shows findings from the empirical data in the form of thematic analysis. Themes covers cluster formation, strategy, barriers and problems including key success factors.

4.3.3.1 Edutainment Cluster

‘Edutainment Cluster’ is the geographical group of companies in relation to tourism, linked with associated institutions to achieve mutual benefits

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
Cluster Formation	Creation/ original of cluster	<ul style="list-style-type: none"> Government support 	<ul style="list-style-type: none"> Thaksin era Tourism city Chiang Mai Charm Government established Top-down 	<ul style="list-style-type: none"> KIAsia led 	<ul style="list-style-type: none"> Chiang Mai Charm Cluster TCI Programme-6 clusters: tourism in Phuket and Chiang Mai, Gemand Jewellery, Silk and OTOP

Table 4.13 Cluster Formation; Source: Author

Table 4.13 shows the cluster formations. In the beginning the cluster used the name ‘Chiang Mai Charm Cluster’ for the big picture. The Vice President of Chiang Mai Tourism Business Association said

Under the umbrella of Chiang Mai Charm, we have separate sectors such as eco-tourism, adventure holidays etc. (Appendix 2.9 Question 69)

This cluster was the top-down and established by the government.

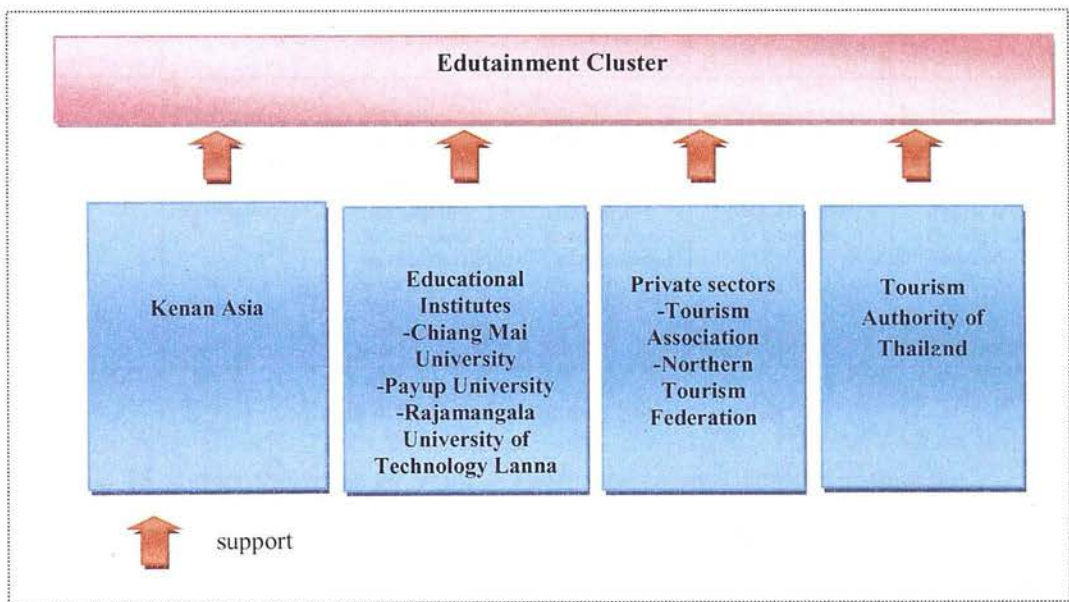


Table 4.14 Edutainment Cluster Mapping; Source: Author

Table 4.14 presents the Edutainment Cluster Mapping. There are several actors supported the cluster such as TAT, the Tourism Business Association, the Association

of Northern Tourism Federation, Chiang Mai, KIAAsia, ChiangMai University, Payup University, Rajamangala University of Technology Lanna.

Chiang Mai is a big city and there are several organisations in relation to tourism. In the beginning, KAsia gave financial support and worked with CM-TBA and then, in order to continue the cluster the government allocated a budget through TAT.

The relationship between the university and the private sector is loose. However, some entrepreneurs have informal relationship with universities and so both entities derive mutual benefits.

As the Vice-President of the Tourism Business Association said:

Because I have taught some universities' courses I have formed informal links with the university and this has enabled me to receive help from the universities. Other entrepreneurs who have no informal links find it difficult to get help. (Appendix 2.9 Question Q25, 78)

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
Role of actors	Prescribed behaviour associated with particular organisation	<ul style="list-style-type: none"> • TAT takes responsibility of marketing • MOTs takes responsibility for provincial tasks in tourism areas in Chiang Mai, Lumpoon, Lumpang 	<ul style="list-style-type: none"> • Big city - several actors • CM-TBA cooperate with public and private sector and universities 	<ul style="list-style-type: none"> • College of Media and Arts and Technology, CMU support 2 parts: consultant and e-tourism 	<ul style="list-style-type: none"> • TCI Programme-6 clusters: tourism in Phuket and Chiang Mai, Gem and Jewellery, Silk and OTOP

Table 4.15 Roles of actors; Source: Author

Table 4.15 shows the roles of actors. There are several actors: within the public sector, there was TAT and CM-TBA. Within the non-profit organisation, there was KIAAsia. There were several Universities such as Payup University, Chiang Mai University and Rajchamongkol Technology University.

I have therefore chosen actors that are influential towards the cluster. In the beginning, KIAAsia gave financial support and worked with CM-TBA and then, so as to continue the cluster, the government allocated the budget through TAT. But

the actors changed from CM-TBA to the Association of Northern Tourism Federation, Chiang Mai. The Vice President of CM-TBA was the person who cooperated with KIA Asia at the beginning of the cluster and used the cluster concept for his business. He explained the role of the association in relation to the university

As an Association we want stronger links with the universities. We want to invite lecturers in tourism to meet us. We need the universities to produce the type of graduates that we want and need. (Appendix 2.9 Question 17)

4.3.3.2 Hotel de Charm Cluster

In this sector, the research presents themes starting from a cluster formation that is different from other clusters, and how this cluster still exists whilst others have disappeared. The research also expressed what participants would like to achieve through interaction between the three entities involved. Similarly the role of the government and non-government bodies is explained and how their strategies were implemented.

Hotel de Charm Cluster is a group of boutique hotels that allies itself to associated institutions in order to achieve mutual benefits.

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
Cluster Formation	Creation of the cluster as a tool in order to enhance the performance of the group or/and increase competitiveness of the nation.	<ul style="list-style-type: none"> Private lead 	<ul style="list-style-type: none"> Bottom-up Entrepreneurs joined together to share marketing expenses then turn guest house to boutique hotel 	<ul style="list-style-type: none"> Tamarinnd owner and his friends who own boutique hotels joined together to share marketing expenses and tried to make the same standard Champion product of OTOP 	<ul style="list-style-type: none"> 5 boutique hotels joined together and emphasises on local culture TCI Programme- 6 clusters: tourism in Phuket and Chiang Mai, Gem and Jewellery, Silk and OTOP

Table 4.16 Hotel de Charm Cluster Formation; Source: Author

Table 4.16 shows the cluster formation. The cluster originally consisted of the group of boutique hotels alone, and then the province wanted the Hotel de Charm to be the model for the champion product of OTOP so that the province and Chiang

Mai University would support it. However, from the beginning the university joined as the consultant and guide for the cluster. As the Director of the Knowledge and Innovation Centre, College of Arts, Media, and Technology, CMU said:

The first thing is to let them see the benefits of the cluster, and then they will work towards its implementation. The cluster will combine loosely. But they know that if they share something in the cluster, they will get something in return. The college itself, the consultant, will help in trying to shape the framework. It is vital to make them understand the cluster first. (Appendix 2.2 Question 4)

However, this boutique hotel group was started by Mr A, who used to be the manager of The Oriental Hotel in Bangkok. He built Tamarind as a guesthouse and contacted friends to join the group to share the marketing costs. In addition, he wanted to write his story to the legend. They saw that if they were overbooked, but part of a cluster they could share resources with each other and set about joint promotions. The potential for exploiting opportunities, trade patterns and any associated problems jointly has brought them together:

People in the cluster must be confident that the leader of the cluster will pass on his customers when he is over-booked to members of the cluster. (Appendix 2.2 Question 4)

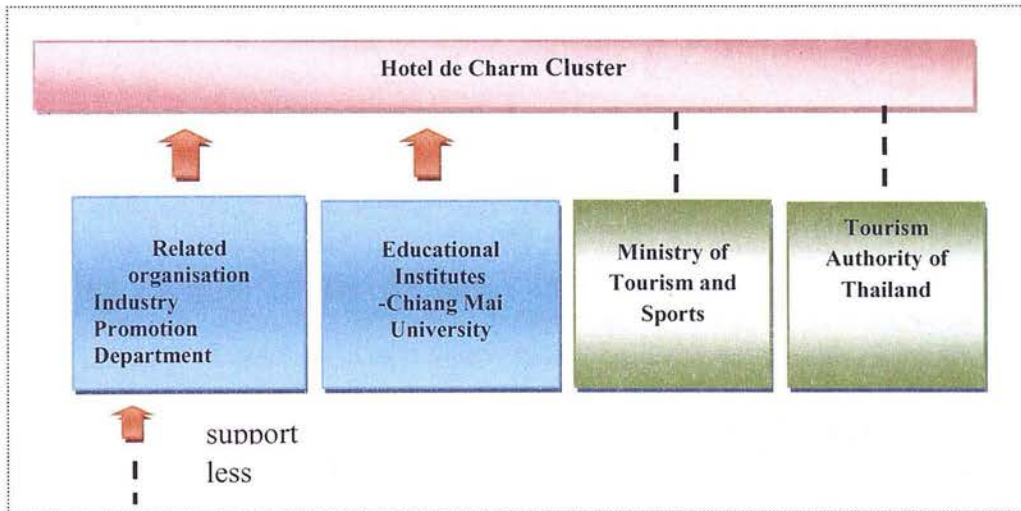


Table 4.17 Hotel de Charm Cluster Mapping Source: Author

Table 4.17 presents the Hotel de Charm Cluster Mapping. There are several actors such as TAT, Industry Promotion Department, CMU involved.

However, relationships within the cluster are strong as most are friends and they are happy to meet each other once every 3-4 months to have a dinner and share experiences. As the MD of Peak Adventure Tour said:

The way to communicate within the group is by using the telephone. But, for the last 3 months or so there has been no communication. (Appendix 2.12 Question 15)

The way the participants in the cluster accept new members is that they agree on the criteria such as that they must already be the owner of a hotel to make decision and the location must not be near each other, and they must feel they can get along.

Theme	Description	Primary Data			Secondary Data
		Public Sector	Private Sector	University/ Non-Profit Organisation	
Roles of actors	Prescribed behaviour associated with particular organisation	<ul style="list-style-type: none">• TAT support	<ul style="list-style-type: none">• CMU-consultant• TAT-budget	<ul style="list-style-type: none">• College of Media and Arts and Technology, CMU support 2 parts: consultant and e-tourism	<ul style="list-style-type: none">• Lack of link and support from public sector

Table 4.18 Roles of actors
Source: Author

Table 4.18 shows the roles of actors. In terms of actors, the Director of TAT: Chiang Mai office said:

As I said the private sector always makes it look good at first. I came to this quite recently so they were already established before I came. As regards to associations, there are many. As I told you, there are many associations such as Chiang Mai Tourism Business Association, The Association of Northern Tourism Federation Chiang Mai, Guide Association, and Hotel Association. Besides, there is the Jungle Tour Association. Each has its own character. But for Hotel de Charm, it is ok. They are associated because they would like to reduce costs of promotion. It works better, for example N17 means north in 17 provinces. So these Tourism Associations join together. Their objectives are the same. Their members may belong to the same group. Their activities are the same. The only difference is who is strong. But I think, they cannot all be as strong as Phuket. (Appendix 2.7/Question 17)

4.4 Summary

Findings from in-depth interviews with the government and non-government bodies in the three entities reveals that government policy has had a huge impact on tourism and especially clusters formations such as the Phuket Tourism Cluster. This was started from the Visiting Thailand Policy that changed Phuket dramatically from a tin mining to a tourism city. USAID funded the establishment of the TCI in order to assist Thailand's recovery from the Asian Financial Crisis. Consequently, clusters were established in regions across the country by government bodies as a tool for increasing the competitiveness of the country. Therefore, every province established clusters including the three cases that I studied. Only one was established by the private sector. Also, in the cluster development established by the government, the local public sector is the lead agency.

However if we look at one of the successful clusters, the Orchid Cluster, findings show that this cluster occurred through the private sector in order to solve the insect problem. The outstanding character of the leader of the cluster and his close working with the university were key success factors. In contrast, unsuccessful clusters such as the Sa Paper Making Cluster were established and supported by the public sector. However, the key factor that made this cluster fail was its untrustworthy leader.

In terms of the role of actors at the national level, public sector and non-profit organisations play a very important role via their strategies and plans. At the national level, findings reveal that government bodies often obtain new remits; as a result, officials cannot continue to work on some previous tasks. For instance the NESDB official had too great a workload and when she was assigned to more responsibilities, she could not finish the strategic plan for tourism and had to pass it to the Thailand Development Research Institute (TDRI). Another important actor is KIASia, the organisation promoted and provided knowledge to clusters all around the country. KIASia used the same pattern for all these clusters across the country. Hence, these findings will be analysed and discussed further in chapter five and six

in the cross case analysis such that the “why” and the “how” questions are addressed in relationship to the literature previously reviewed.